City of MISSION

City Hall - 6090 Woodson Street - Mission, Kansas 66202
Community Development Department
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PLANNING COMMISSION

AGENDA

September 25, 2017

7:00 PM

1. Approval of Minutes from the June 26, 2017 meeting

2. Election of Planning Commission Secretary-Ashley Elmore

3. Case # 17-08 Preliminary Site Plan-Martway Mixed Use-Clockwork Architecture + Design - *Public Hearing*
   Preliminary Site Plan consideration of the proposed redevelopment of 6005-6045 Martway Street into a 5-story mixed use building containing apartments and ground floor commercial.
   a. Staff Report
   b. Density Handout
   c. Rental Handout
   d. Preliminary Site Plan
   e. Project Narrative
   f. Olsson Associates Memo
   g. Traffic Impact Analysis-draft
   h. Drainage Memo

4. Case # 17-09 Final Site Plan-Mission Trails-EPC Real Estate
   Final Site Plan consideration of the proposed redevelopment of 6201 Johnson Drive into a 5-story mixed use building containing apartments, retail space and offices.
   a. Staff Report
   b. Final Site Plan
   c. Design Package Exhibit
   d. Approved Preliminary Site Plan
   e. Project Narrative
   f. Olsson Associates Memo
   g. Traffic Impact Analysis
   h. Stormwater Study
   i. Private Sign Code
   j. Materials Board

5. PC Comments/CIP Update

6. Staff Updates

MINUTES OF THE PLANNING COMMISSION MEETING
June 26, 2017

The regular meeting of the Mission Planning Commission was called to order by Chairman Mike Lee at 6:00 PM Monday, June 26, 2017. Members also present: Jim Brown, Scott Babcock, Stuart Braden, Robin Dukelow, Brad Davidson (arrived after roll call), Charlie Troppito and Frank Bruce. Absent was Dana Buford. Also in attendance: Danielle Sitzman, City Planner; Brian Scott, Assistant City Administrator, Laura Smith, City Administrator, and Nora Tripp, Secretary to the Planning Commission.

Approval of Minutes from the May 22, 2017, Meeting

Mr. Troppito: I have a comment about something that I said. I don't want to change anything, but what's missing was the intent. It was not my intent to require developers to conform to a standard that we don't have. In other words, locating their network connections where cable companies and other internet providers place them in the building. I think that's something we could do more education on. Jim, if you know of any building codes that address that, I would appreciate you emailing them to me.

Mr. Brown: Building codes that address what, exactly?

Mr. Troppito: The placement of network wiring in apartment complexes that internet service providers connect to.

Mr. Brown: The placement isn't covered.

Mr. Troppito: Okay. Thank you. I thought I remembered that Mr. Brown and Mr. Babcock voted "nay" on that motion. And you said it was unanimous? Am I remembering that wrong?

Chairman Lee: The second motion was unanimous. The first was not.

Mr. Troppito: Thank you.

Ms. Dukelow moved and Mr. Brown seconded a motion to approve the minutes of the May 22, 2017, Planning Commission meeting.

The vote was taken (6-0-1). The **motion carried**. Mr. Davidson was absent for the vote and Mr. Braden abstained.

Case # 17-07 TIF Project Plan-Gateway Project

Ms. Sitzman: I will give a brief overview. This is before you tonight as to whether the project plan submitted is in conformance with the Comprehensive Plan. This is a step that we go through as part of the regulations for the City Council to eventually negotiate a development agreement based on the project plan and such. There were some slight changes to the one that you approved in May, having to do with the potential office tenant. The previous version that you saw had a little more vague wording and was not specific to the phasing for the offices. This version reflects nailing down those details. So, not much has really changed. The office component was a part of the site plans that

you saw. The development agreement is really their next step for nailing down any kind of agreements with the City. So, I've provided more detail about that. So, this document simply reflects there may need to be some additional decisions. Our bond counsel wanted us to have this document come back to you because it was a significant enough change, they wanted to make sure that all documents had the current findings made by the Planning Commission. So, this is just a finding of whether the plan that was submitted to you – essentially a site plan – and this project plan are in conformance with the Comprehensive Plan. We do believe that it is, and recommend that you find so. Ms. Smith is with us this evening to answer any questions, but primarily, I'll remind you – and you guys all know – your goal is in regards to the Comprehensive Plan.

[*Mr. Davidson joined the meeting*.]

Chairman Lee: Any comments or questions? [*None*.] If not, I'll entertain a motion.

Mr. Troppito: I move that the Planning Commission approve Resolution PC-9, finding that the Fourth Amended Tax Increment Financing Redevelopment Project Plan, submitted on June 21, 2017, is consistent with the Comprehensive Plan for development in the city of Mission.

Mr. Babcock: Second.

The vote on the motion was taken, (8-0). **The motion carried**.

Planning Commission Comments/CIP Updates

Ms. Sitzman: We've added this as a standing item, and I've expanded it to include the CIP. There are two members of this board who will be serving on the CIP committee, so this will be an opportunity in the future for them to report back on that ongoing process. I do not have any updates this evening.

Staff Update

Staff provided an update on current and upcoming projects and events.

ADJOURNMENT

With no other agenda items, **Mr. Braden moved and Ms. Dukelow seconded a motion to adjourn.** (Vote was unanimous). The **motion carried**. The meeting adjourned at 6:08 P.M.

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Mike Lee, Chair

ATTEST:

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Danielle Sitzman, City Planner

STAFF REPORT
Planning Commission Meeting September 25, 2017

AGENDA ITEM NO.: 3

PROJECT NUMBER / TITLE: Application # 17-08

REQUEST: Preliminary Site Development Plan for Martway Mixed Use Development

LOCATION: 6005-6045 Martway Street

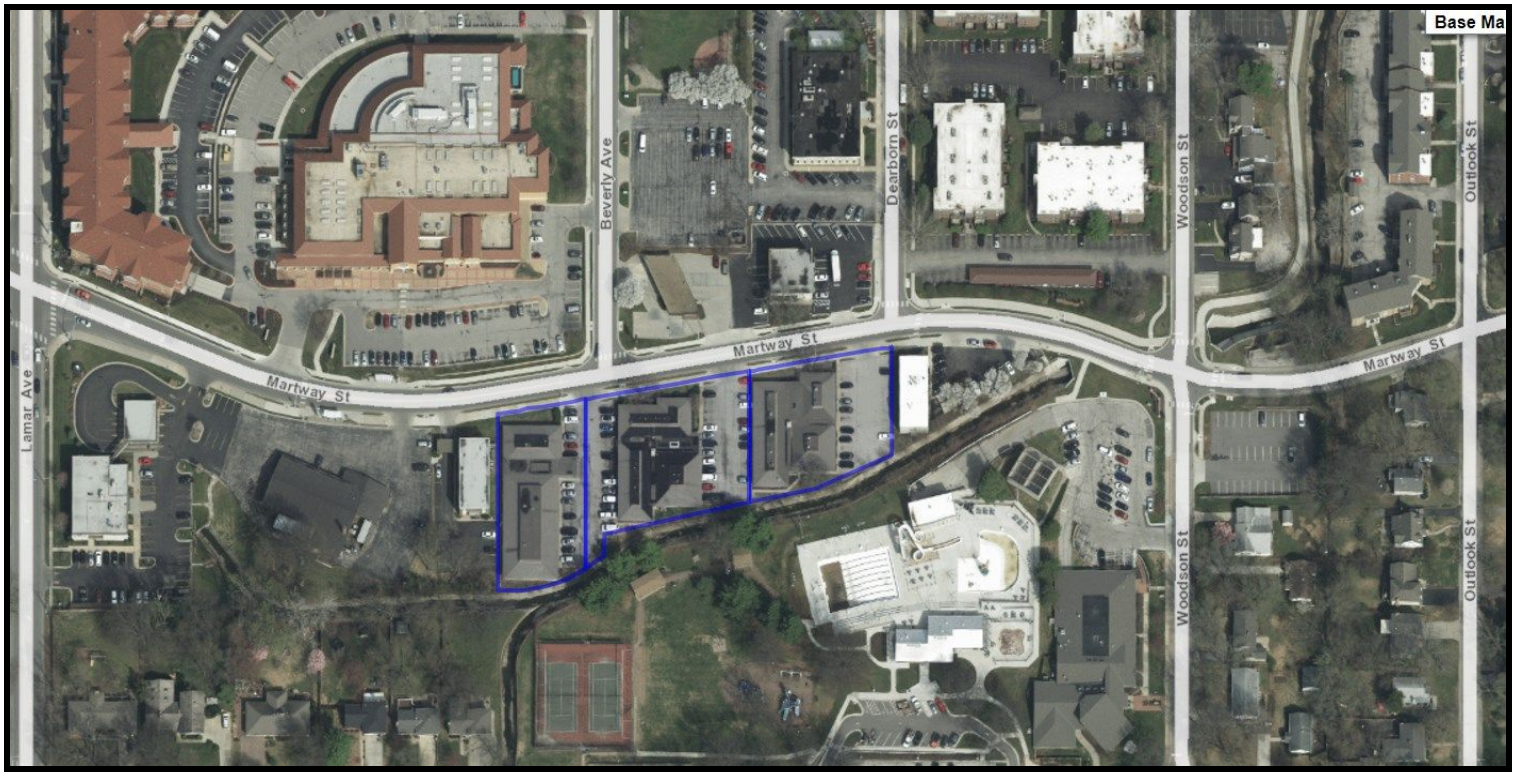
APPLICANT: Christian Arnold, Clockwork Architecture + Design

PROPERTY OWNER: Martway Officeworks LLC
423 Delaware St, Ste 102
Kansas City, MO 64105

STAFF CONTACT: Danielle Sitzman

ADVERTISEMENT: 9/5/17-The Legal Record newspaper

PUBLIC HEARING: Planning Commission meeting, September 25, 2017



Property Information:
The subject property is occupied by three small office buildings with a total footprint of approximately 34,000 square feet. They were constructed in the mid 1960's. In 2014 the land was platted for the first time into three lots known as the Martway Office Buildings Subdivision in anticipation by the then owner to offer them for sale. The property is zoned Main Street District

2 “MS2”. It is located in the Downtown District and subject to the *Mission, Kansas Design Guidelines for the Johnson Drive Corridor*. “MS2” was assigned to this property at the time of the City initiated rezoning of entire downtown in 2006. The District was designed to reinforce and encourage the existing character within the core of the downtown.

Surrounding properties are zoned and developed as follows:
North/East/West:“MS2” Main Street District 2-municipal community center, multi-family housing, small office, auto-bank.
South:”R-1” Single-Family Residential District-Municipal Offices, Police Department, Outdoor City Pool, Parkland, single-family homes.

Comprehensive Plan Future Land Use Recommendation for this area:
The Comprehensive Plan indicates this area is appropriate for Medium-Density Mixed Use, Parks, and Office. This area should be composed of a pedestrian-friendly mix of mostly housing and limited office and retail uses at medium densities. Such districts typically serve as a transition zone between low to moderate density residential neighborhoods and areas of higher intensity commercial activity. This category primarily consists of an intermix of low to moderate density attached residential housing types, such as row housing, townhomes, condominiums, duplexes, triplexes, and fourplexes, and multiplex and apartment/condo dwellings. Residential densities may vary throughout the neighborhoods and are typically higher than low-density residential areas. The ground floor is appropriate for offices or limited retail stores with upper floors including housing units.

The proposed project is in conformance with the intent of the Comprehensive Plan to provide a mix of residential densities and uses located in proximity to the higher commercial intensity uses near Johnson Drive. It also addresses the Comprehensive Plan Goals of downtown floodplain redevelopment, supports multi-modal travel,and contributes to the economy of the downtown.

Project Background:
The applicant recently purchased all three office building properties. At this time the applicant, Christian Arnold of Clockwork Architecture + Design, is requesting a preliminary site plan approval for redevelopment of the site into a 5-story mixed use building consisting of retail and parking on the ground floor with apartments above.

Plan Review
The applicant is proposing a 5-story mixed use building containing apartments and retail space on a 1.8 acre infill site in the downtown on the south side of Martway Street roughly between Beverly Avenue and Dearborn Street. The project is bounded by the Rock Creek Trail along its southern border. The main building would be raised on concrete podium to allow for parking beneath the structure, floodproofing, and clearance for fire district vehicles. The ground floor retail/office space would be comprised of two enclosed building sections flanking the entrances on the north side of the building. The remaining upper floors would contain 156 rental dwelling units. The preliminary plan submitted for review by the Planning Commission includes the following total planned square footage by use:

	Use	Approximate Area
Commercial	office/retail	3,491 S.F.
Residential	Apartments	155,908 S.F.
	Total	**159,399 S.F.**

Planned District Deviations Requested

The Main Street District 2 is a planned zoning district and therefore eligible for consideration of deviations from the prescribed zoning standards. A planned district is a zoning technique that is intended to create additional flexibility in the application of zoning standards such as, but not limited to, setbacks and height. Conventional zoning, which relies on rigid dimensional standards, does not easily accommodate innovative development especially where mixed-use or infill projects are proposed. In addition, conventional zoning relief requires changing the zoning code standards on a project by project basis or through the consideration of variances. In the case of the former, changing zoning district standards often would create non-conformities as the new rules are then applied to all existing developed property within the same zoning district. On the other hand, variances are difficult to justify as the criteria used for evaluation rely on the demonstration of a unique hardship related to the physical characteristics of the property. The merits of a particular development concept alone are not a proper reason to grant a variance.

The adoption of planned zoning in Mission was a precursor to the development of other innovative zoning techniques such as mixed use zoning districts like the Main Street District 1 & 2 districts and other overlay zones. It is a valuable tool as it allows for deviations from conventional zoning standards on a case by case basis upon review of specific development proposals. The stated intent of the City of Mission's planned district code is to encourage quality development by permitting deviations from the conventional zoning district to encourage large-scale developments, efficient development of smaller tracts, innovative and imaginative site planning, conservation of natural resources, and minimum waste of land.

Many of the requested deviations discussed below relate to the special challenges of infill redevelopment. Infill refers to the development of vacant or underutilized parcels within previously built areas. These areas are already served by public infrastructure, such as transportation, water, wastewater, and other utilities.

Redevelopment describes converting an existing built property into another use. Ideally, redevelopment aims for better use of the property that provides an economic return to the community. In this case, conversion of several small offices in need of repair and renovation constrained by the nearby floodplain to a mixed-use development that combines residential and commercial uses.

Infill redevelopment optimizes prior infrastructure investments and consumes less land that is otherwise available. Infill redevelopment can result in:

- Efficient utilization of land resources
- More compact patterns of land use and development
- Reinvestment in areas that are targeted for growth and have existing infrastructure like the downtown
- More efficient delivery of quality public services such as transit

As a community where most land has already been developed, most if not all redevelopment in Mission will be infill redevelopment in nature. Therefore, in order to fulfill the long-range goals of the Comprehensive Plan to provide a mix of residential densities and uses located in proximity to the higher commercial intensity uses near Johnson Drive, redevelopment of the downtown floodplain, support of multi-modal travel, and enhancement of the downtown economy,

additional flexibility is an important element of plan review.

The applicant is requesting the following deviations:

1) On-Site Parking. The "MS2" zoning standard requires a minimum of 4 parking spaces per 1,000 square feet of commercial gross floor area and 1 space per efficiency and one bedroom apartments. 2 spaces are required for two bedroom apartments (410.250). The proposed mix development contains the following mix on site:

Use	Number	Base Code Requirement	Proposed On-Site	Proposed Off-Site	Reduction
Retail	3,491 S.F.	14 spaces	0	0	14
Efficiency/One Bedroom Units	116 Units (24/92)	116 spaces	166	10	20
Two Bedroom Units	40 Units	80 spaces			
	Total	210	166	10	34

The applicant is requesting a permission to provide 166 spaces on site with the option to lease 10 additional spaces from adjacent properties for a total reduction of 34 spaces

The applicant states in the project narrative (attached) that the full number of parking spaces will not be needed due to the anticipated 5% normal vacancy rate of the apartments and shared parking between the retail and housing uses which will have different periods of demand. In addition, the applicant proposes securing agreements for leasing nearby off-site parking spaces. The intent is to reduce the amount of land devoted to under utilized or unneeded parking and to allow for a more efficient use of land.

Staff Notes-The number of parking spaces needed is related to the proposed uses of the site. In this case, primarily the number of apartment units. The City's parking ratios are based on conservative estimates of the average demand expected by a typical use. The intent is to ensure that the impact of vehicles generated by private activities such as housing and commercial activity do not overrun public facilities like the street network. The developer is proposing to provide parking ratios tailored to the character of their project. They indicate the number of apartments proposed is necessary to make the project financially feasible and sustainable over time. Costs unique to infill projects can come from demolition of existing structures, odd or obsolete site shapes and sizes, existing facilities like trails and street right-of-ways, and floodplains. In exchange for this allowance the project generates 44 additional bedrooms thus increasing the population density. Additional density is a more efficient use of land than a smaller scale development. Additional density and therefore additional rents offsets costs and results in potentially higher property values and a better quality project.

There are several well developed alternative modes of travel immediately available to the site which may reduce vehicle travel demand. This includes a network of sidewalks, the Rock Creek multi-modal trail, and several KCATA bus routes which travel between two enhanced bus stops at the community center and the Mission Transit Center hub on Johnson Drive.

The applicant's estimate of rates of parking demand for housing are similar to other observed conditions at similar apartment developments like those operated by EPC Real Estate. This would likely be sufficient to meet the needs for residential parking without building unnecessary stalls that would remain unused.

In regard to retail parking demand, the applicant's traffic study does not consistently identify the nature of the commercial space as either retail or office. Therefore the City's consulting engineer has asked for revisions to the study to clarify this. This is a relatively small total area of the building and is not anticipated to alter or to generate pass-by traffic. Pass-by traffic are those drivers who happened to be driving by on their way to something else and stop in because it is convenient before resuming their original trip. Also, it could be possible for the commercial tenants to share parking with the residential units as they operate at different peak hours. However, while the study appears to indicate traffic impacts will not require additional roadway improvements, without the correct data, staff would prefer to defer making a recommendation on the parking deviation. This deviation could be considered at the time of final site plan review when a revised traffic impact analysis report has been received and reviewed.

2) Rear Yard Setbacks. The "MS2" zoning standard requires properties adjacent to those zoned "R-1" Single-Family Residential District to provide a twenty-five foot (25) building setback between them. Otherwise no setbacks are required. (410.240). The applicant is requesting permission to waive this setback.

In the project narrative the applicant indicates that the Rock Creek drainage tract, creek channel, and Victor X Andersen Park provide an equivalent if not larger setback from any surrounding single-family homes.

Staff Notes-The overall separation of structure intended by the code is a minimum of 45 feet (subject setback of 25'+ 20' rear yard setback of SF home). The only qualifying "R-1" zoned property adjacent to the proposed project is that of the City Hall building, outdoor pool, and Victor X Andersen Park. These areas are unlikely to redevelop into single family dwelling units and do not require a buffer from the proposed development which is a less intense use. Also, the city properties easily fit the definition of office or recreational zoning districts which if so designated would remove the need for any setback. The intent of the required setback has been met by the creek channel, Tract A, and the open space of the park. Granting this deviation allows for a more efficient use of land by removing an unnecessary buffer.

3) Building Height. The "MS2" zoning standard limits a building's maximum height to 3 stories and or forty-five feet. (410.240) The applicant is requesting a maximum height allowance of 5 stories and or sixty-seven feet.

The applicant is requesting the additional height so that additional apartment units can be included in the design. The project narrative explains that the building's height is also affected by a larger clearance on the ground floor to accommodate parking due to the floodplain and fire district access. The applicant points out the sloping topography which puts the site 10'-20' lower than many surrounding properties of similar height or of the nearest single-family homes.

Staff Notes-As stated earlier, the number of apartments proposed is necessary to make the project financially feasible and sustainable over time. Infill projects face additional site design

challenges and costs. In exchange for this allowance the project generates an additional 77,950 square feet of development. Half of this offsets the loss of ground floor development area due to the floodplain impacts. Additional density is a more efficient use of land than a smaller scale development. Additional density and therefore additional rents offsets costs and results in potentially higher property values and a better quality project.

4) Minimum Lot Area per Dwelling Unit. The "MS2" zoning standard requires 1,245 square feet of lot area per dwelling unit or a maximum of 35 units per acre (410.240). The applicant is requesting permission to reduce the lot area per dwelling unit to fit their proposed design to allow for the 156 units or 155,908 square feet of residential development in a mixed use building. This is approximately 493 square feet or 88.64 units per acre. Note:the exact lot area or unit density calculation may fluctuate if the amount of land dedicated on the final plat for changes the site area. The intent is to allow 156 or approximately 155,908 square feet of residential development. This is not dwelling unit size.

The applicant states in the project narrative that the project has been designed in response to current market trends for increased density and to make the project economically feasible. They also indicate that the proposed density brings customers within walking distance of the main commercial district of the city.

Staff Notes-The proposed lot area per unit is comparable with many of the current apartment development projects underway in northeast Johnson County especially those in and around Downtown Overland Park (See attached density table). The baseline density contained in the "MS2" zoning district reflects the existing apartment development in the area which were constructed 35-60 years ago. All existing apartment complexes in the downtown predate the newly created zoning districts "MS1", "MS2" or "DND". If the baseline density was not altered, approximately 62 units would be allowed on site. Likely only 40 of these could be constructed due to the floodplain impacts to the ground floor because of the proximity to Rock Creek. That would result in a lot area per unit of 1,925 square feet which is lower than any other downtown multi-family property. Modern, market-driven, high quality infill requires flexibility to be built on this site.

5) Parking Lot Setback. The "MS2" zoning standard prohibits newly constructed paved surface parking areas from being closer than 6' from a street or property line (410.250). The applicant is requesting permission to waive this requirement for the west property line only.

The applicant states in the project narrative that the purpose of the request is to maximize on-site parking while avoiding siting incompatible features with the adjacent property. They point out that the adjacent development to the west also contains a surface parking lot. The applicant stated they will look for opportunities to create landscape buffers where feasible with the development of the final site plan.

Staff Notes-The intent of this code section is to provide screening and buffering from undesirable areas (surface parking lots) and the public way or adjacent properties. No side yard setback is required between the building and the west property line except for the parking lot. The proposed site plan otherwise meets the requirements for parking lot setbacks and the bulk of the surface parking lot is behind or under the proposed building which is a highly desired feature. A stipulation should be made that this deviation is for the west property line only and

that alternate screening of this area should be provided for consideration with the final site plan.

6) Parking Lot Buffer. The *Mission, Kansas Design Guidelines for the Johnson Drive Corridor* requires parking lots abutting an interior property line to maintain a minimum of 4' of green space (3.2). The applicant is requesting permission to waive this requirement for the entire site.

Staff Notes-This requirement is similar to that of #5 but more strict in its applicability to all interior property lines regardless of what they abut. The proposed project is lined by the Rock Creek along the entire southern property boundary and a 6' buffer is shown along the east boundary. Granting the #5 deviation to the west boundary with stipulations will ensure proper buffering of surrounding properties.

7) Site Tree. The supplemental landscaping requirements of the Municipal Code require site trees to be planting in the parking lot at a rate of 1 tree per every 20 parking spaces (415.090). The applicant is requesting permission to waive this requirement.

The applicant states in the project narrative that this deviation is requested to maximize on-site parking and that the location of the surface parking lot under and behind the proposed building screens and shades the parking area.

Staff Notes-The intent of this code section is to visually soften parking lots from the view from other areas, provide shade, ground water recharge, air purification, and enhance the quality appearance of the site. This development has proposed a building design in which parking is located under or behind the building. This is an acceptable or superior design and therefore buffering the parking area with site trees is not needed.

8) Parking Lot Interior Open Space. The supplemental landscaping requirements of the Municipal Code require site trees to be planting in the parking lot at a rate of 1 tree per every 20 parking spaces (415.110). The applicant is requesting permission to waive this requirement.

The applicant states in the project narrative that this deviation is requested to maximize on-site parking and that the location of the surface parking lot under and behind the proposed building screens and shades the parking area. Quality landscaping where feasible on the site will be explored with the development of the final site plan

Staff Notes-Again,the intent of this code section is the same as #7 above. This development has proposed a building design in which parking is located under or behind the building. This is an acceptable or superior design and therefore provided open space in the parking field is not needed.

Code Review: Standards of Development (405.090)

The Planning Commission, in the process of approving preliminary site development plans, may approve deviations upon a finding that all of the following conditions have been met:

1. The granting of the deviation will not adversely affect the rights of adjacent property owners.

-The requested deviations with stipulations where noted do not infringe upon the rights of other

adjacent property owners to continue to reasonably use their own properties. The proposed development repeats a pattern already established in the neighborhood of ground floor retail or small office along Martway Street and multi-story multi-family housing.

2. That the deviation desired will not adversely affect the public health, safety, morals, order, convenience, prosperity or general welfare.

-The impacts of the deviations upon traffic, stormwater runoff, and the public streetscape are being examined and must be found to meet city requirements at the time of final site plan approval.

3. The granting of the deviation will not be opposed to the general spirit and intent of this Title.

-The requested deviations with stipulations as noted meet the spirit and intent of the code as discussed in the section above.

4. That it has been determined the granting of a deviation will not result in extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing federal or state laws.

-The proposed deviations will not create additional public expense, nuisances, or violate other laws.

Johnson Drive Design Guidelines

The Johnson Drive Design Guidelines provide a wide range of recommended and required design elements applicable to the development. These include streetscaping and the relationship of buildings and their exterior facades to public streets as well as building materials and screening. Many of these details are not required at the time of preliminary site plan review and will be fully evaluated with final site plans.

Staff Notes-Design Guidelines: Buildings are shown filling in the block parallel to the public street and extending the width of the property with parking behind or under the primary facade. Adequate room has **not** been reserved for streetscape elements to match the Martway Street streetscape and Rock Creek Trail already established. The proposed building materials and architectural style are reflected in the colored elevations and exterior renderings. A modern architectural theme is proposed. The intent of the Johnson Drive Guidelines is to encourage detailed and articulated building elevations that create interesting facades, complementary massing, human scale elements, and high quality appearance materials. It acknowledges that Mission benefits from a diversity of architectural styles and would not prohibit modern styles that are compatible in form and proportion to buildings with their immediate context on Martway Street. Specific details of all building elements including materials will be reviewed a the time of final site plan submittal. The applicant has provided comment on the building design in the project narrative.

Traffic Impact Analysis & Parking

The proposed parking plan is discussed in the deviations section of the staff report. Access into the site is proposed from two access points along Martway Street. One will align with Beverley Avenue and one will be slightly offset from Dearborn Street. The off-set entrance is in the same location as an existing driveway and therefore not a new condition in the street

network. Both driveways will enter into the ground floor parking area under the building.

Staff Notes-Traffic & Parking: The Johnson Drive Design Guidelines support structured parking and minimizing the amount of surface parking in redeveloping areas of the city. The applicant was required to provide a full traffic impact analysis including estimated traffic generation trips and the assignment of those trips to the various intersections surrounding the site using standard traffic engineering practices. In addition to traffic volume, the impact to the performance of several intersections adjacent to the site were also studied and assigned a A-F grade.

The City's on-call engineers at Olsson Associates have reviewed the Traffic Impact Analysis and the proposed preliminary site plans. They are generally satisfied with the preliminary project design and the capacity of the road network to accommodate the proposed development but note a discrepancy in the trip generation method estimating traffic based on office or retail use on the ground floor. They recommend reserving the right to make further comment on the proposed parking until a revised final study is provided. Comments will be required to be resolved before the study or final site plan are accepted. Conditions regarding on-site vehicle and ADA circulation are included in the recommended approval below.

Stormwater Management

The subject property generally drains southeast into the adjacent Rock Creek channel located immediately south and flowing to the east. No details of the proposed future drainage collection, routes or discharged were provided. The proposed development results in a slight increase in impervious surface (approximately 3,418 S.F.) and has requested a waiver from stormwater management based on the adopted code provisions of APWA 5600.

The City's on-call engineers at Olsson Associates have reviewed a stormwater drainage memorandum and the preliminary site plans. They are generally satisfied with the preliminary project design but recommend reserving the right to make further comment until the final study is provided. Any further comments for the applicant to address will be required to be resolved before the study or final site plan are accepted. Conditions regarding drainage are included in the recommended approval below.

Floodplain

A portion of the Rock Creek regulatory 100-year floodplain exists on this site. Therefore the City's Floodplain Management Ordinance will regulate the development. Development will only be permitted through the issuance of a floodplain development permit under such safeguards and restrictions as may be reasonably imposed for the protection of the community. The City's on-call engineers have begun this review and will continue to evaluate the proposed construction for the proper floodproofing, site work, and regulatory permits. This is a process which occurs as site planning begins and concludes before building permit issuance. Conditions regarding this process are included in the recommended approval below.

On Site/Off-Site Public Improvements

The developer is responsible for the construction of public improvements along Martway Street such as sidewalk, street trees, irrigation, benches, bike racks, street lights, etc. Improvements to the barrier to Rock Creek may also be required. Any necessary off-site improvements identified in review of the final traffic and stormwater studies will also be the responsibility of the applicant.

Staff Notes-Public Improvements: A minimum 10' wide paved clear zone along Martway Street must be maintained for the existing Rock Creek Trail. The proposed 8' wide trail is insufficient to meet multi-modal trail standards. In addition, adequate space for a streetscape amenity zone (street trees, streetlights, signage, etc.) must be provided. This zone should be 5' wide at a minimum. Room for door sweeps for the ground floor commercial space should be accounted for outside of the trail as well. Additional details are needed with final plans to ensure the Martway Street streetscape provides adequate dimensions. Additional street right-of-way dedication will be required with final plans and plats.

Signs

As a mixed use development, the subject property is encouraged to establish a private sign criteria as an alternative to the specific sign requirements of this district.

Staff Notes-Signs: The city's sign code indicates criteria shall be for the purpose of ensuring harmony and visual quality throughout the development. The size, colors, materials, styles of lettering, appearance of logos, types of illumination and location of signs must be set out in such criteria. Signs may wait to be addressed in this manner until final development plans are submitted. A preliminary proposal was provided. The sign criteria will be reviewed and approved a the time of final site plan review.

Sustainable design and construction practices

The Mission Sustainability Commission has developed a rating and certification system for development projects. The applicant has been invited to present the project to the Sustainability Commission. Once completed, the final scoring of the project will be provided to the Planning Commission at the time of Final Site Plan review.

Miscellaneous

A neighborhood meeting was hosted by the applicant at the Community Center on September 12th. Property owners within 700' of the subject property were invited by a mailed invitation to attend. The event was also advertised on the City's social media accounts and website. Approximately 40-50 people attended the meeting. Issues discussed included the building height and aesthetics of the project.

Code Review: Consideration of Site Plans (440.160)

Site plans shall be approved upon determination of the following criteria:

1. The site is capable of accommodating the building(s), parking areas and drives with appropriate open space.

-The building, parking area, driveways, and open space have been designed to meet codes and guidelines within a planned district.

2. The plan provides for safe and easy ingress, egress and internal traffic circulation.

-There is adequate space on the site to allow for circulation of residents, customers, and the public with no impact to traffic on adjacent public streets. A traffic/trip generation study was submitted for review and any further comments can be addressed at final site plan review.

3. The plan is consistent with good land planning and site engineering design principles.

-The proposed project is in preliminary conformance with the Main Street District 2 zoning

district with the deviations and conditions below and the *Mission, Kansas Design Guidelines for the Johnson Drive Corridor* for building placement and massing.

4. An appropriate degree of harmony will prevail between the architectural quality of the proposed building(s) and the surrounding neighborhood.

-The proposed project is subject to the design guidelines for the downtown district which will ensure architectural harmony as the final site plan is prepared. The design concept expressed at preliminary site plan indicates a modern architectural style similar to many similar mixed use developments occurring in Northeast Johnson County. Design elements of the surrounding buildings are shown in the exterior renderings.

5. The plan represents an overall development pattern that is consistent with the Comprehensive Plan and other adopted planning policies.

-The proposed mixed use building is consistent with the intent of the Comprehensive Plan to encourage greater density and mix of uses in the downtown District.

6. Right-of-way for any abutting thoroughfare has been dedicated pursuant to the provisions of Chapter 455.

-Any required right-of-way changes for this site to accommodate such things as public trails will be addressed with preparation of a revised final plat.

Staff Recommendation

The proposed development conforms with the Comprehensive plan, meets the overall intent of the "MS2" zoning district, and complies with the required findings for Section 405.090 and 440.160. Therefore, Staff recommends the Planning Commission recommend approval of the Preliminary Site Development Plan for Case # 17-08 Martway Mixed Use to the City Council with the following stipulations:

1. Deferral of consideration of the requested deviation to on-site parking until the time of final site plan approval.

2. Approval of the requested deviation to rear yard setbacks to waive the requirement for a 25' setback along adjacent "R-1" zoned city property.

3. Approval of the requested deviation to height to allow a maximum building height of five stories and or 67 feet.

4. Approval of the requested deviation to waive the minimum lot area per dwelling unit to allow for the proposed design of 156 units or 155,908 square feet of residential development in a mixed-use building.

5. Approval of the requested deviation to waive the 6' parking lot setbacks along the west property line.

6. Approval of the requested deviation to waive the parking lot buffers for the entire site.

7. Approval of the requested deviation to waive the site tree requirement based on parking spaces.

8. Approval of the requested deviation to waive the parking lot open space standard.

9. A revised final traffic study and final stormwater drainage designs must be submitted for review with the final site plan application. The appropriate data, text, maps, drawings and tables must be included per the Olsson Associates review comments dated September 20, 2017 and attached to this report.

10. Staff reserves the right to provide additional comments or stipulations on development plans until all traffic,circulation, ADA, storm drainage,and floodplain related concerns have been addressed.

11. Provide adequate right-of-way for the required streetscape elements. A minimum of 10' wide paved clear path is required for the Rock Creek Trail separated from the back of curb by a minimum 5' way planting zone.

Multifamily Density by City District

Map Key	Property Name	Site Address	Number of Units	Lot Area (SqFT)	Min Lot Area (Lot Area/Unit)	Year Built	Current Code Requirement (Lot Area/Unit)	Acres	Units/Acre
Downtown District									
Zone									
R-4	Mission Heights	5717 Outlook St	40	17,501	438	1974	3,500 sqft	0.40	100
DND	Mission Ridge - At Home	5911 Reeds Rd	30	30,760	1,025	1973	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	0.71	42
DND	Outlook Apts	5933 Outlook St #2	24	25,198	1,050	1985	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	0.58	41
MS2	Mission 58	5601 W 58th St	16	16,800	1,050	1968	1,245 sqft, 35 du/ac	0.39	41
MS2	The Maples	5811 Maple St	16	16,800	1,050	1964	1,245 sqft, 35 du/ac	0.39	41
MS2	Mission Hills - At Home	5954 Woodson St (4 buildings on 4 parcels)	120	137,427	1,145	1976	1,245 sqft, 35 du/ac	3.15	38
R-4	Mission Point - At Home	5708 Outlook St (2 buildings on 3 parcels)	34	44,101	1,297	1973	3,500 sqft	1.01	34
DND	The Gables-At Home	5934 Outlook St (2 buildings on 2 parcels unevenly distributed)	43	56,050	1,303	1966	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	1.29	33
DND	Mission Terrace - At Home	5720 Martway St	11	14,712	1,337	1964	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	0.34	33
DND	Mission Gardens	5905 W. 58th St	25	33,602	1,344	1960	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	0.77	32
DND	Mission Woods- At Home	5920 Reeds Rd (4 buildings on 4 parcels)	48	67,199	1,400	1972	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	1.54	31
DND	Maple Hill	5946 Maple St	12	19,103	1,592	1984	SF-4,500sqft 9.68 du/ac, TH-1,742sqft 25 du/ac, MF-**872sqft** 50 du/ac	0.44	27
MS1	Proposed Mission Trails	6201 Johnson Dr	194	122,669	632	2018	None	2.82	69
MS2	Proposed Martway Mixed Use	6005-6045 Martway St (1 building spanning 3 parcels)	156	76,971	493	2018	1,245 sqft, 35 du/ac	1.77	88
West Gateway District									
FBC	The Welstone at Mission Crossing*	6050 Broadmoor St	101	98,868	979	2014	NA	2.27	44
East Gateway District									
Other Areas-Mission									
R-6	The Falls	6565 Foxridge Dr	435	675,134	1,552	1972	1,200 sqft	15.50	28
R-6	Foxfire Apartments	5020 Glenwood St	280	548,172	1,958	1984	1,200 sqft	12.58	22
R-6	Silverwood	5100 Foxridge Dr	280	648,063	2,315	1986	1,200 sqft	14.88	19
R-4	The Retreat at Mission	6230 W 51st St	108	302,618	2,802	1971	3,500 sqft	6.95	16
R-4	Bridges At Foxridge	5250 Foxridge Dr (Many buildings on 4 parcels)	317	1,044,140	3,294	1966	3,500 sqft	23.97	13
R-6	Wellington Club	6900 W 50th Ter	224	759,024	3,389	1972	1,200 sqft	17.42	13
RP-4	Hillsborough	5401 Foxridge Dr (Many buildings on 2 parcels unevenly distributed)	329	1,279,324	3,889	1984	NA	29.37	11
Other Areas-Outside Mission									
	Market Lofts	**Under construction 80th St and Santa Fe Dr/by Rio-Downtown OP (bldg also has grnd fl retail)**	**36**	**15,342**	**426**	**2017**		0.35	102
	The Vue	**Under construction 80th St and Santa Fe Dr/southside-Downtown OP**	**219**	**100,924**	**461**	**2017**		2.32	95
	51 Main-EPC	Plaza south area-KCMO	176	94,500	537	20??		2.17	81
	Interurban Lofts	**79th St & Conser St-Downtown OP (bldg also has ground floor office)**	**41**	**24,352**	**594**	**2017**		0.56	73
	Avenue 80-EPC	**Metcalf Ave & 80th Street, Overland Park**	**218**	**148,674**	**682**	**2017**		3.41	64
	Domain at City Center-EPC	87th St & Renner Blvd, Lenexa	203	140,133	690	2016		3.22	63
	Woodside village	Rainbow Blvd & 47th Pl-Westwood (Apts and live work units on Lot 5 & 2 other grdn fl uses)	330	240,000	727	2016		5.51	60
	District at City Center-EPC	Not yet built 87th St & Rnner Blvd, Lenexa (2 buildings on 2 parcels)	175	156,030	892	2019		3.58	49
	Meadow Brook-The Kessler Apartments	95th Street & Nall Ave, Prairie Village (6.8 acres of mixed use and parkland 42 ac site)	282	296,208	1,050	2017		6.80	41
	The Heights-Linden Square	N. Oak Trafficway & 69th St-Downtown Gladstone	222	240,000	1,081	2015		5.51	40
	Brookridge	Antioch Rd & I-435, Overland Park (131 acre site with many features)	2,076	5,706,360	2,749	2020		131.00	16

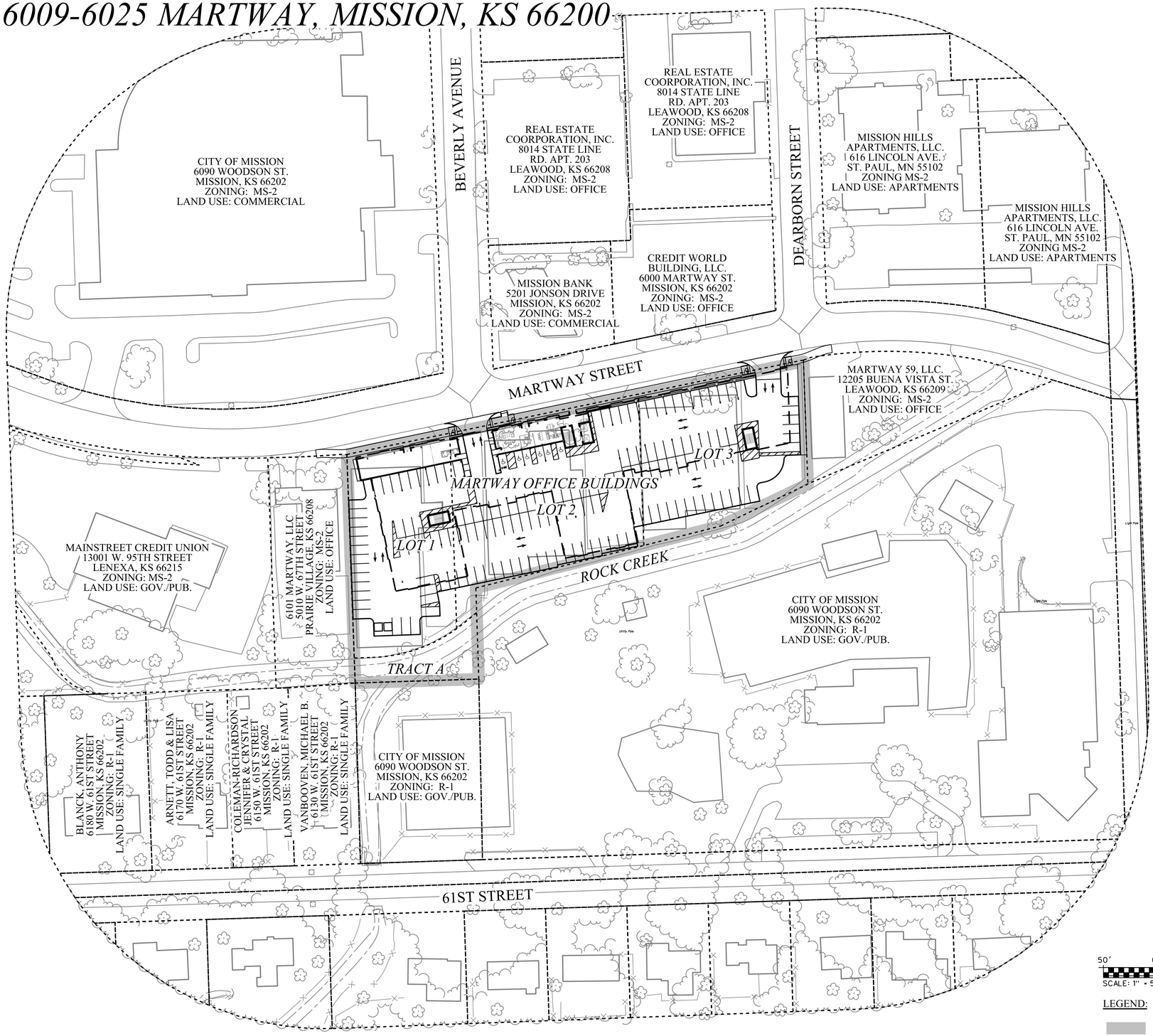
Property Name	Site Address	Number of Units	Rent Range and Unit Types	Amenities (pool/clubhouse/covered parking)	Year Original Construction (AIMS)	Major Renovations (Year/description/value-BIM)	2017 Appraised Value (AIMS)	2016 Appraised Value (AIMS)	% Change Value 16-17
Mission Gardens	5905 W. 58th St	25			1960	Oct 2016/ reroof/$18,000 June 2016/ reroof/$5,600	$1,012,000.00	$945,000.00	7.09%
Mission Terrace - At Home	5720 Martway St	11	$810 - $850 1 Bedroom	Google Fiber	1964	2013/multi-family reroof/$13,895	$493,000.00	$472,000.00	4.45%
The Maples	5811 Maple St	16	1 ,2 Bedrooms		1964	No permit information found	$781,000.00	$751,000.00	3.99%
Bridges At Foxridge	5250 Foxridge Dr	317	$840 - $1150 1, 2, 3 Bedrooms	Pool, Clubhouse, Covered Parking, Garages, Dog Park, Tennis Court	1966	016/emerg damage repair to kitchen/$16,542 2015/reroof 2 apts bldgs/1 carport/$43,780 v 2012/HVAC replacement - eight permits/$525 ea Oct 2012/ HVAC replacement - twelve permits/$525 ea 2011/replace meter can /$2,200 2007/no description/$150,000	$5,552,000.00	$5,321,000.00	4.34%
The Gables-At Home	5934 Outlook St	43	$800 - $1050 1,2 Bedrooms	Google Fiber	1966	014/ reroof/$19,500 2013/ deck replacement/$40,000	$1,477,000.00	$1,417,000.00	4.23%
Mission 58	5601 W 58th St	16	$625 - $725 1, 2 Bedrooms	On site laundry, downtown proximity	1968	Nov 2014/ replace water heater/$3,900 Oct 2014/gas leak repairs/$5,000 2012/reroof/$35,000	$727,000.00	$699,000.00	4.01%
The Retreat at Mission	6230 W 51st St	108	$650 - $975 1, 2, 3 Bedrooms	Pool, Garages, Basketball Court	1971	2016/HVAC/$3150 015/water heater - four permits/$3100 ea Dec 2015/furnace replacement - four permits/0 value (together with water heater? June 2015/ HVAC/$2600 mer repair demo of apts due to fire/ $1200 2001/ no description/$10,998	$5,169,000.00	$4,630,000.00	11.64%
Mission Woods- At Home	5920 Reeds Rd	48	$725 - $880 1, 2 Bedrooms	Google Fiber	1972	no permit information found	$635,000.00	$609,000.00	4.27%
The Falls	6565 Foxridge Dr	435	$659 - $900 Studio, 1, 2 Bedrooms	Cover Parking, Pool, Clubhouse, Garages	1972	see attached page	$18,229,000.00	$17,507,000.00	4.12%
Wellington Club	6900 W 50th Ter	224	$625 - $975 1, 2, 3 Bedrooms	Clubhouse, Pool, Basketball Court, Sand Volleyball Court	1972	014/water heater/$1,000 2013/ Remodel of fire damaged apts/$250,000 eb 2013/Temp elect for apts/$2500 Feb 2013/demo of apart bldg/$15,000 012/water heater/$500 Dec 2009/reroof/$102,500 2009/ Remodel from fire damage/$47,444	$11,208,000.00	$10,471,000.00	7.04%
Mission Point - At Home	5708 Outlook St	34	$800 - $900 1,2 Bedrooms	Google Fiber	1973	2015/replace deck/$14,288 pr 2013/HVAC/$10,200 Mar 2013/reroof/$14,500	$901,000.00	$866,000.00	4.04%
Mission Ridge - At Home	5911 Reeds Rd	30	$695 - $825 Studio, 1 Bedroom	Google Fiber	1973	2012/AC/$7,000 2011/Exter Alteration/$108,084	$1,406,000.00	$1,352,000.00	3.99%
Mission Heights	5717 Outlook St	40	$719 - $910 1,2 Bedrooms		1974	Mar 2016/ HVAC replacement /$3,100 ea - three permits Dec 2015/HVAC replacement/$3,100 ea - five permits Oct 2015/HVAC replacement/$3,100 - one permit July 2015/HVAC replacement /$3,100 ea-two permits June 2015/HVAC/$3,100-one permit March 2004/new patio/deck/$8,000	$587,000.00	$563,000.00	4.26%

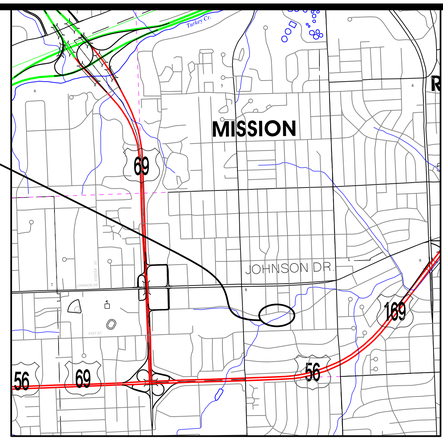
Property Name	Site Address	Number of Units	Rent Range and Unit Types	Amenities (pool/clubhouse/covered parking)	Year Original Construction (AIMS)	Major Renovations (Year/description/value-BIM)	2017 Appraised Value (AIMS)	2016 Appraised Value (AIMS)	% Change Value 16-17
Mission Hills - At Home	5954 Woodson St	120	$800 - $880 1,2 Bedrooms	Covered Parking, Google Fiber	1976	2014/reroof/$28,500	$1,562,000.00	$1,501,000.00	4.06%
Foxfire Apartments	5020 Glenwood St	280	$585 - $740 1, 2 Bedrooms	Pool, Clubhouse, Covered Parking, Tennis Court	1984	2012/reroof/$553,927 2011/replace retaining wall/$19,878 stall of iron fence/addition to existing / $2,670 2003/HVAC replacement/$400,000 2000/no description/$30,000 1997/stairs/$305,000	$15,313,000.00	$14,517,000.00	5.48%
Hillsborough	5401 Foxridge Dr	329	$790 - $1040 1, 2 Bedrooms	Pool. Clubhouse, Covered Parking, Garages, Tennis Court, Basketball Court	1984	2016/gas water heater- five permits/$400 ea y 2014/garage carport replacement/$30,000 April 2014 / Demo of fire damaged apt./$20,000 Mar 2014/elect repair due to fire/$1500 Oct 2013/Fire repair to 4 units/$300,000 Mar 2013/ electrical demo and temp power/$2,500 and lechanical reconnect gas/$400 2000/no description/$19,622 1995/no description/$3,536,000	$17,479,000.00	$17,092,000.00	2.26%
Maple Hill	5946 Maple St	12			1984	2011/re-roof/$12,000 2013/water heater replacement/$500	$427,000.00	$409,000.00	4.40%
Outlook Apts	5933 Outlook St #2	24			1985	2014/ deck and stair replacement/$30,000	$989,000.00	$951,000.00	4.00%
Silverwood	5100 Foxridge Dr	280	$738 - $1405 1, 2 Bedrooms	Covered Parking, Pool, Clubhouse,	1986	Oct 2015/Water heater/$500 July 2015/ stair replacement/$108,000 2012/Retaining wall/$14,890 2007/install eng key stone wall system/$30,000	$19,391,000.00	$18,898,000.00	2.61%
The Welstone at Mission Crossing	6050 Broadmoor St	101	1, 2 Bedrooms	Clubhouse, WiFi, Prepared Meals	2014	16/inter remodel/$100,000 014/New construction/$8,100,000 April 2014/temp elect serv/$1,000	$10,550,840.00	$7,887,370.00	33.77%

MARTWAY MIXED USE

PRELIMINARY DEVELOPMENT PLAN

6009-6025 MARTWAY, MISSION, KS 66200





VICINITY MAP:

LEGAL DESCRIPTION

LOTS 1, 2 AND 3 OF MARTWAY OFFICE BUILDINGS A SUBDIVISION OF LAND IN THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 25 EAST OF THE SIXTH PRINCIPLE MERIDIAN IN THE CITY OF MISSION, JOHNSON COUNTY, KANSAS.

SITE DEVELOPMENT SUMMARY TABLE

EXISTING ZONING:

MS-2

LAND AREA:

1.767 ACRES OR 76,971 SQUARE FEET MORE OR LESS

LAND USE:

EXISTING:

OFFICE

PROPOSED:

A MIXED USE DEVELOPMENT WITH A 5-STORY APARTMENT COMPLEX WITH COMMERCIAL SPACE AND PARKING DECK ON THE FIRST FLOOR

BUILDING HEIGHT:

MAXIMUM BUILDING HEIGHT: 3-STORY/45'-0"
PROPOSED BUILDING HEIGHT: 5-STORY/67'-0"

BUILDING FLOOR AREA:

FIRST FLOOR:	3,491 S.F.
SECOND FLOOR:	38,977 S.F.
THIRD FLOOR:	38,977 S.F.
FOURTH FLOOR:	38,977 S.F.
FIFTH FLOOR:	38,977 S.F.
TOTAL FLOOR AREA	159,399 S.F.

FLOOR AREA RATIO

2.07

PARKING SUMMARY

PROPOSED PARKING RATIO: 0.79

PARKING SUMMARY TABLE		
BUILDING USE	SPECIFIC USE REQUIREMENT	SPACE REQUIREMENT
COMMERCIAL SPACE	4 SPACES PER 1000 S.F. x 3491 S.F.	14 SPACES
EFFICIENCY APARTMENTS	1 SPACE PER UNIT x 24 UNITS	24 SPACES
ONE BEDROOM APARTMENTS	1 SPACE PER UNIT x 93 UNITS	93 SPACES
TWO BEDROOM APARTMENTS	2 SPACES PER UNIT x 40 UNITS	80 SPACES
	TOTAL SPACES REQUIRED	**210 SPACES**
	TOTAL SPACES PROVIDED	****166 SPACES**

**** 6 ACCESSIBLE SPACES WITH 1 VAN SPACE HAS BEEN PROVIDED**

OWNER:

MARTWAY OFFICE WORKS, LLC
423 DELAWARE STREET, STE. 102
KANSAS CITY, MO 64105

ARCHITECT:

CLOCKWORK
423 DELAWARE STREET STE. 102
KANSAS CITY, MO 64105

DEVELOPER:

MARTWAY OFFICE WORKS, LLC
423 DELAWARE STREET, STE. 102
KANSAS CITY, MO 64105

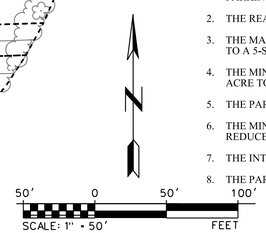
ENGINEER/LANDSCAPE ARCHITECT /SURVEYOR/PLANNER:

CFS ENGINEERS, P.A.
1421 E. 104TH STREET, SUITE 100
KANSAS CITY, MO 64131

REQUESTED DEVIATIONS

THE DEVELOPER REQUESTS THE FOLLOWING DEVIATIONS TO THE CITY OF MISSION'S MUNICIPAL CODE:

1. THE ONSITE PARKING SPACE REQUIREMENT BE REDUCED FROM 210 SPACES TO 166 SPACES AS LONG AS THE ADDITIONAL 44 SPACES ARE OBTAINED IN AN OFF-SITE PARKING AGREEMENT.
2. THE REAR YARD SETBACK REQUIREMENT BE REDUCED FROM 25' TO A 0' SETBACK.
3. THE MAXIMUM BUILDING HEIGHT REQUIREMENT BE RAISED FROM A 3-STORY 45 FOOT TO A 5-STORY 67 FOOT MAXIMUM BUILDING HEIGHT.
4. THE MINIMUM LOT AREA PER MULTI-FAMILY DWELLING BE RAISED FROM 35 UNITS PER ACRE TO 88.64 UNITS PER ACRE.
5. THE PARKING LOT SETBACK BE REDUCED FROM 6' TO 0'.
6. THE MINIMUM GREEN SPACE BUFFER BETWEEN PARKING AND INTERIOR LOT LINES BE REDUCED FROM 4' TO 0'.
7. THE INTERIOR PARKING LOT TREE REQUIREMENTS.
8. THE PARKING LOT INTERIOR OPEN SPACE REQUIREMENT.



LEGEND:

LIMITS OF DEVELOPMENT

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

C100

OVERALL SITE PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

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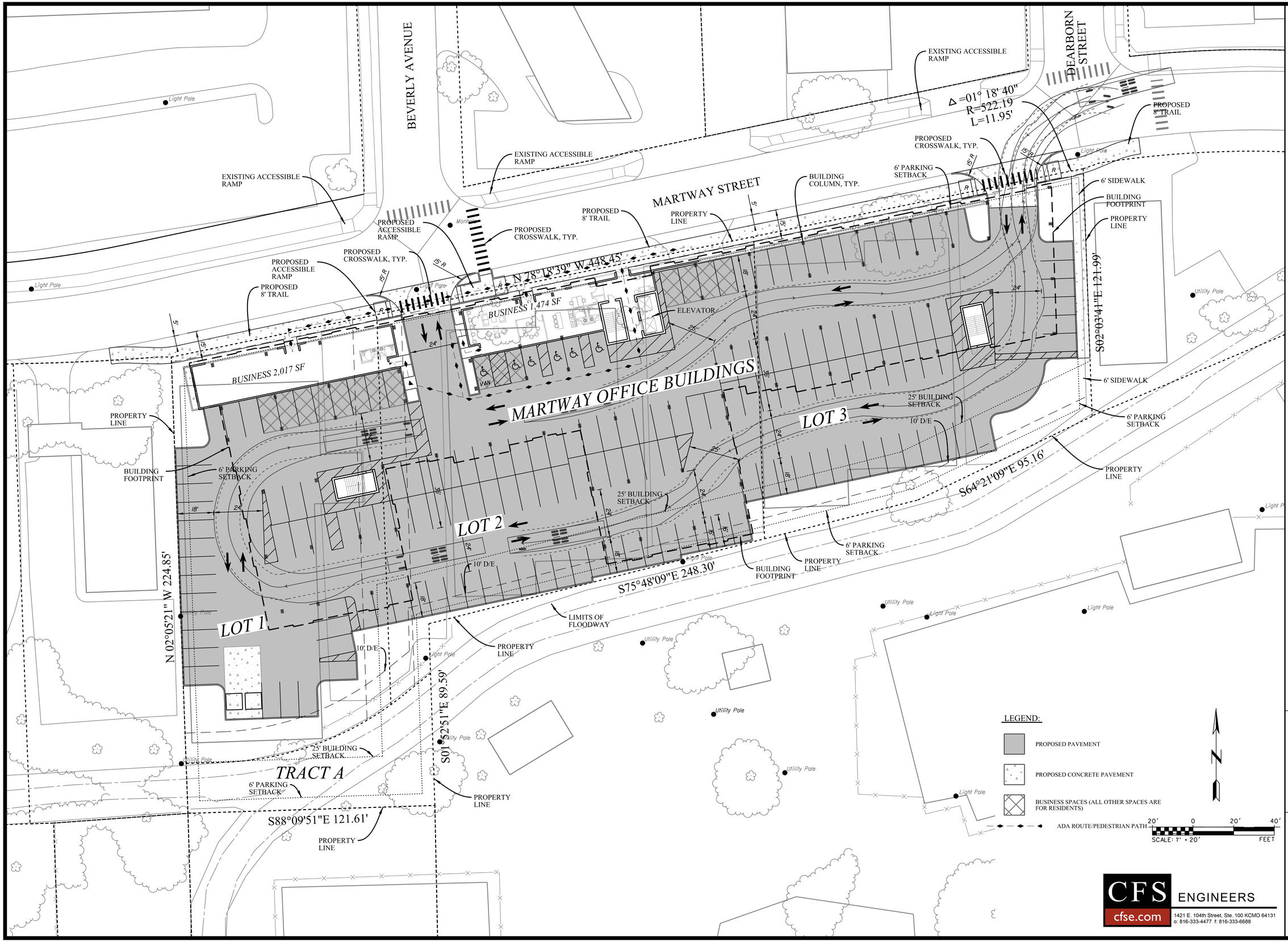

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS LICENSED 20382 9/15/17 KANSAS PROFESSIONAL ENGINEER

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
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	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

C101

SITE PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

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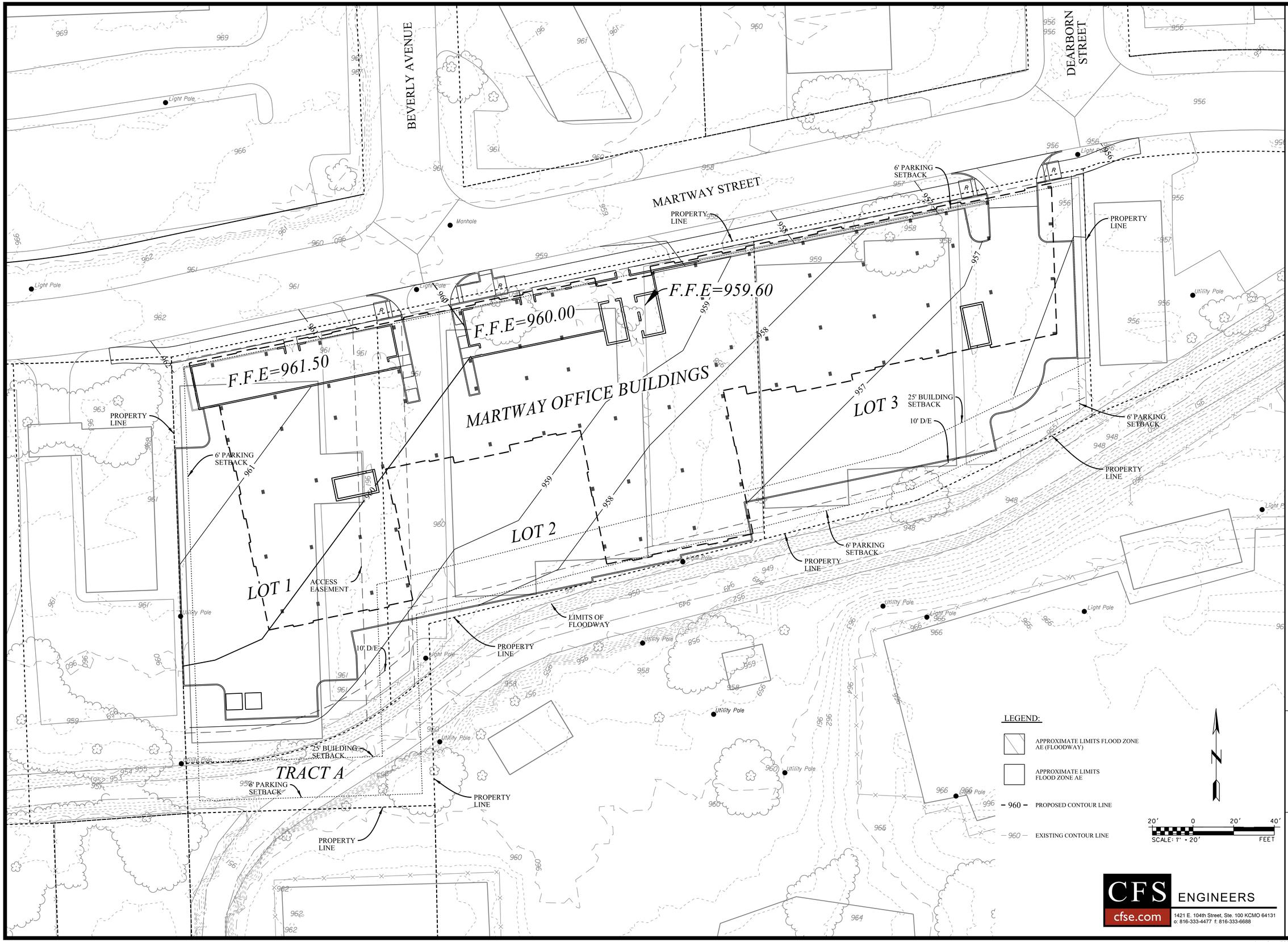

LEGEND:

- APPROXIMATE LIMITS FLOOD ZONE AE (FLOODWAY)
- APPROXIMATE LIMITS FLOOD ZONE AE
- 960 — PROPOSED CONTOUR LINE
- 960 — EXISTING CONTOUR LINE

N

20' 0 20' 40'
SCALE: 1" = 20' FEET

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

CFS ENGINEERS
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1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

C200

GRADING PLAN

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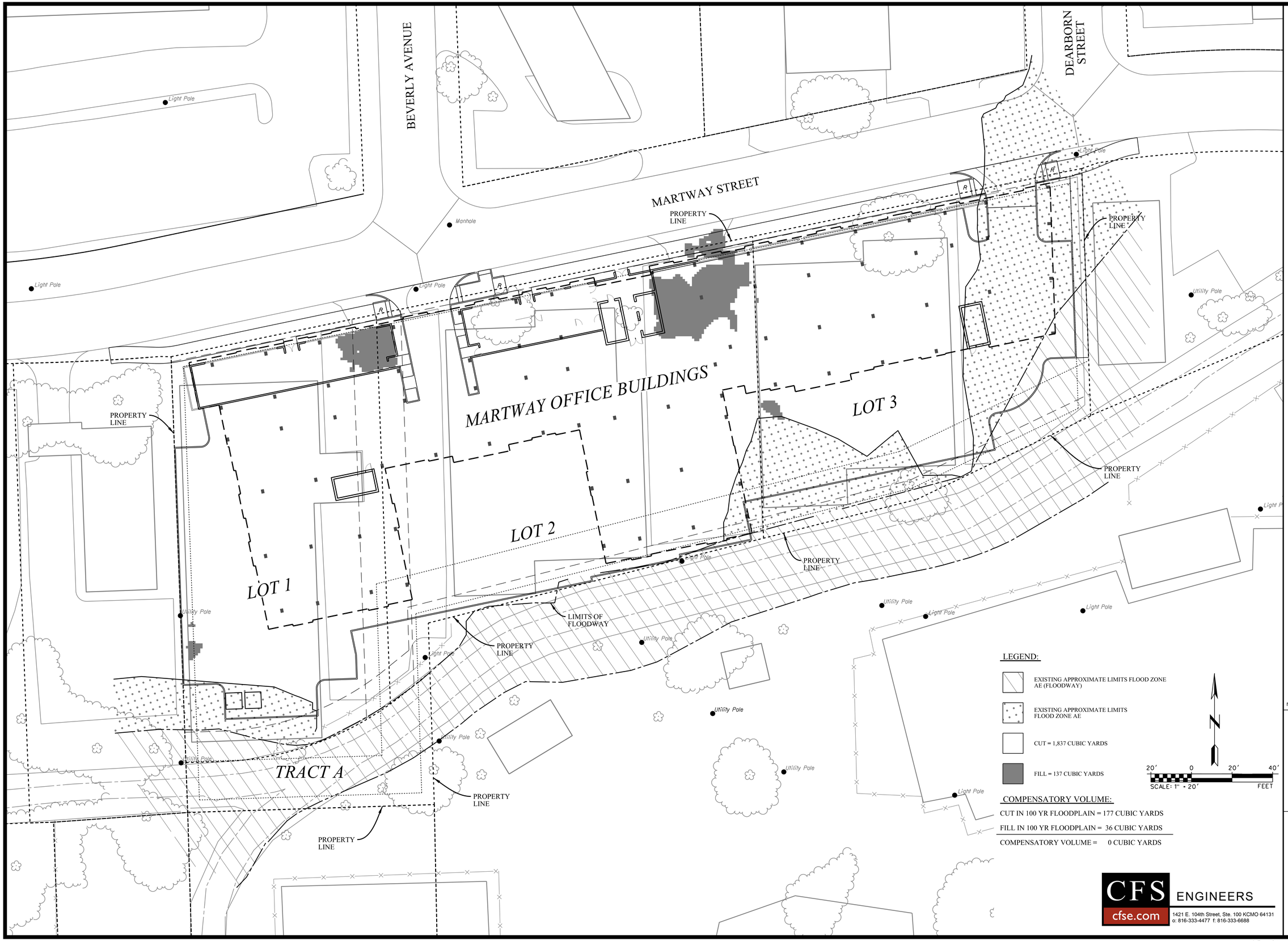

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
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LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

C201

CUT & FILL PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

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BEVERLY AVENUE

DEARBORN STREET

MARTWAY STREET

MARTWAY OFFICE BUILDINGS

LOT 1

LOT 2

LOT 3

TRACT A

LIMITS OF 100YR FLOOD PLAIN

PROPERTY LINE

ELEVATOR

10' D/E

ACCESS EASEMENT

LIMITS OF FLOODWAY

Light Pole

Manhole

Utility Pole

LEGEND:

EXISTING APPROXIMATE LIMITS FLOOD ZONE AE (FLOODWAY)

EXISTING APPROXIMATE LIMITS FLOOD ZONE AE

N

20' 0 20' 40'

SCALE: 1" = 20' FEET

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS LICENSED 20382 KANSAS PROFESSIONAL ENGINEER 9/15/17

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

C202

EXISTING FLOOD PLAIN PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

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clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS
LICENSED
20382
9/15/17
KANSAS
PROFESSIONAL ENGINEER

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

BEVERLY AVENUE

DEARBORN STREET

MARTWAY STREET

MARTWAY OFFICE BUILDINGS

LOT 1

LOT 2

LOT 3

TRACT A

BUSINESS
2,017 SF (NET)

BUSINESS
1,474 SF (net)

ELEVATOR

VAN

PROPERTY LINE

PROPOSED LIMITS OF 100YR FLOOD PLAIN

10' D/E

LIMITS OF FLOODWAY

Light Pole

Manhole

Utility Pole

LEGEND:

PROPOSED APPROXIMATE LIMITS FLOOD ZONE AE (FLOODWAY)

PROPOSED APPROXIMATE LIMITS FLOOD ZONE AE

N

20' 0 20' 40'
SCALE: 1" = 20' FEET

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

C203

PROPOSED FLOOD PLAIN PLAN

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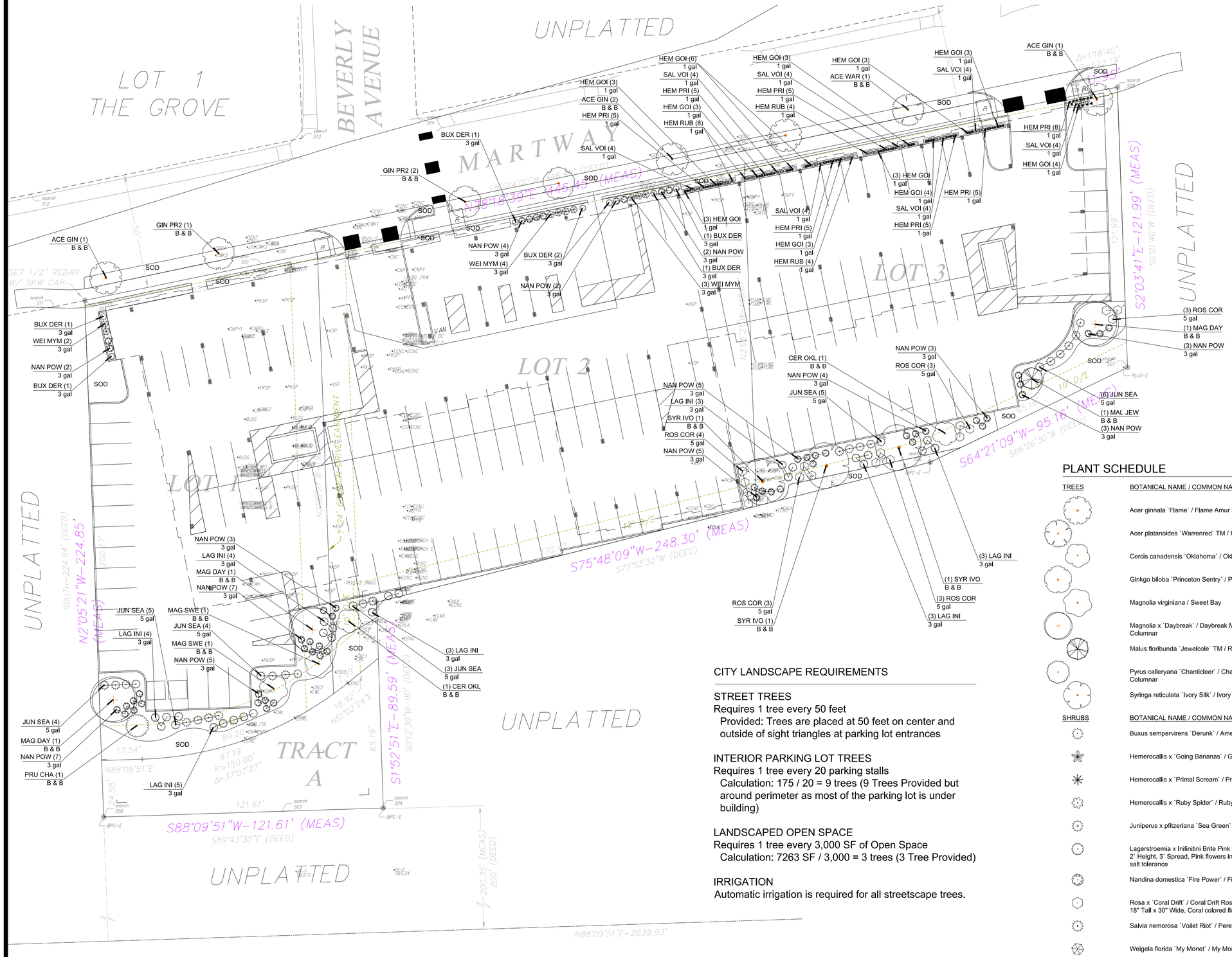

CITY LANDSCAPE REQUIREMENTS

STREET TREES
Requires 1 tree every 50 feet
Provided: Trees are placed at 50 feet on center and outside of sight triangles at parking lot entrances

INTERIOR PARKING LOT TREES
Requires 1 tree every 20 parking stalls
Calculation: 175 / 20 = 9 trees (9 Trees Provided but around perimeter as most of the parking lot is under building)

LANDSCAPED OPEN SPACE
Requires 1 tree every 3,000 SF of Open Space
Calculation: 7263 SF / 3,000 = 3 trees (3 Tree Provided)

IRRIGATION
Automatic irrigation is required for all streetscape trees.

PLANT SCHEDULE

2017-08-24 15:17

TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	QTY
	Acer ginnala `Flame` / Flame Amur Maple	B & B	2"Cal	4
	Acer platanoides `Warrenred` TM / Pacific Sunset Maple	B & B	2"Cal	1
	Cercis canadensis `Oklahoma` / Oklahoma Redbud	B & B	2"Cal	2
	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo	B & B	2"Cal	3
	Magnolia virginiana / Sweet Bay	B & B	2"Cal	2
	Magnolia x `Daybreak` / Daybreak Magnolia Columnar	B & B	2"Cal	3
	Malus floribunda `Jewelcole` TM / Red Jewel Crabapple	B & B	2"Cal	1
	Pyrus calleryana `Chanticleer` / Chanticleer Pear Columnar	B & B	2"Cal	1
	Syringa reticulata `Ivory Silk` / Ivory Silk Japanese Tree Lilac	B & B	3"Cal	3

SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2	QTY
	Buxus sempervirens `Derunk` / American Boxwood	3 gal	Container	7
	Hemerocallis x `Going Bananas` / Going Bananas Daylily	1 gal	Container	32
	Hemerocallis x `Primal Scream` / Primal Scream Daylily	1 gal	Container	33
	Hemerocallis x `Ruby Spider` / Ruby Spider Tiger Daylily	1 gal	Container	16
	Juniperus x pfitzeriana `Sea Green` / Sea Green Juniper	5 gal	Container	27
	Lagerstroemia x Inifinitini Brite Pink / InfinitiniTM Brite Pink Crapemyrtle 2` Helght, 3` Spread, Pink flowers In late April, Deer resistant, Moderate salt tolerance	3 gal	Container	22
	Nandina domestica `Fire Power` / Firepower Nandina	3 gal	Container	54
	Rosa x `Coral Drift` / Coral Drift Rose 18" Tall x 30" Wide, Coral colored flowers	5 gal	Container	16
	Salvia nemorosa `Voillet Riot` / Perenial Salvia	1 gal	Container	24
	Weigela florida `My Monet` / My Monet Weigela	3 gal	Container	9

01 Landscape Plan
Scale 1" = 20'-0"

TRUE NORTH

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JAMES E. SCHUESSLER JR
LICENSED
642
KANSAS
LANDSCAPE ARCHITECT
12/12/17

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	FINAL DEV. PLAN SUBMITTAL	09.15.2017

16.05.Martway

L100

LANDSCAPE PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

01 Typical Floor Plan
Scale 1/8" = 1'-0"

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CHRISTIAN ARNOLD LICENSED 5178 KANSAS ARCHITECT
09.15.2017

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	REVISED PRELIM. PLAN SUBMITTAL	09.15.2017

16.05.Martway

A100

FLOOR PLAN

EXTERIOR ELEVATIONS GENERAL NOTES:

1. WE ARE SEEKING A DEVIATION TO ALLOW THE MAXIMUM BUILDING HEIGHT REQUIREMENT BE RAISED FROM A THREE STORY 45' TO A FIVE STORY 65' MAXIMUM BUILDING HEIGHT.
2. ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE HIDDEN BY THE USE OF PARAPETS.

04 Elevation - South
Scale 1/16" = 1'-0"

MATERIAL LEGEND

GRAPHIC PATTERN	MATERIAL DESCRIPTION
	NICHIHA *'ILLUMINATION'* WALL PANEL VERT. RUNNING BOND 18"x72"
	NICHIHA *'ARCH. BLOCK'* WALL PANEL HORIZ. STACK BOND 18"x72"
	NICHIHA SIM. WOOD WALL PANEL (CEDAR) 6"x120"
	NICHIHA *'ILLUMINATION'* WALL PANEL VERT. RUNNING BOND 18"x72"

03 Elevation - West
Scale 1/16" = 1'-0"

02 Elevation - East
Scale 1/16" = 1'-0"

GLAZING & OPENNESS AREA CALCULATION
TOTAL GLAZING & OPENNESS AREA @ FIRST FLOOR = 3,762 SF
TOTAL FACADE AREA @ FIRST FLOOR = 6, 861 SF
TOTAL PERCENTAGE OF GLAZING AND OPENESS = 55%

01 Elevation - North
Scale 1/16" = 1'-0"

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Martway Mixed Use

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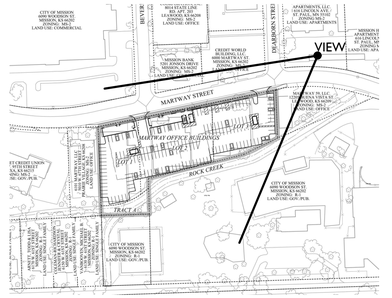
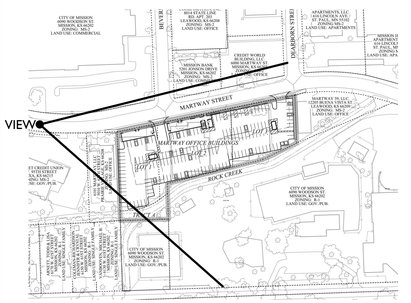
16.05.Martway

A200

ELEVATIONS



02 Perspective View Looking Southwest
Scale N.T.S.



01 Perspective View Looking Southeast
Scale N.T.S.

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Martway Mixed Use

6009 - 6045 Martway
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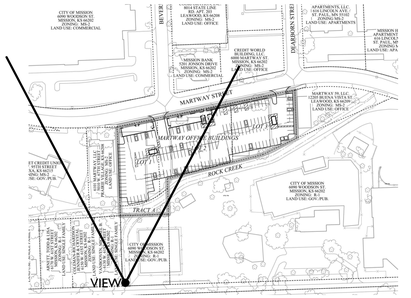
rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	REVISED PRELIM. PLAN SUBMITTAL	09.15.2017

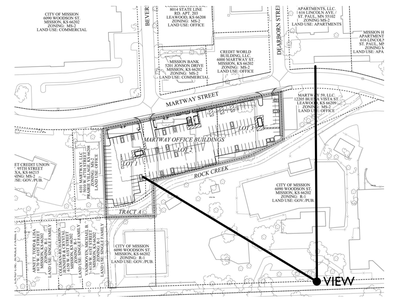
16.05.Martway

A201

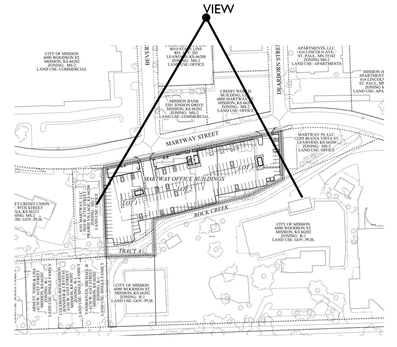
EXTERIOR RENDERINGS



03 View Looking North
Scale N.T.S.



02 View Looking Northwest
Scale N.T.S.



01 View Looking South
Scale N.T.S.

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09.15.2017

Martway Mixed Use

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Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017
	REVISED PRELIM. PLAN SUBMITTAL	09.15.2017

16.05.Martway

A202

EXTERIOR VIEWS

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Other Offices:
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Lawrence, Kansas
Holton, Kansas
Topeka, Kansas
Wichita, Kansas
Branson, Missouri
Springfield, Missouri
Jefferson City, Missouri

September 15th, 2017

Danielle L. Sitzman, AICP
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RE: Maryway Mixed Use/Mission Trails Final Preliminary Plan Case #17-08-Staff Review Comments

Dear Danielle;

In regards to the cities August 8th and August 9th, 2017 review comments we are resubmitting revised plans, and we offer the following responses:

Engineering Review Comments

Floodplain Comments

1. Compensatory volume for any fill within the 100 year floodplain must be provided. Please show fill areas and location for compensatory volume.

   An exhibit has been added to the Drainage Memo showing the fill areas and the locations of compensatory volume.

2. Provide the maximum 100 year floodplain depth in the parking lot. 7" depth is the maximum allowed.

   The 100 year floodplain limits over parking lot have been shown on Sheet C-203, Proposed Floodplain Plan. The parking lot has been graded such that no parking stall would pond over 7" based on the FEMA floodplain depths.

3. Show that the 1st floor retail is 2' above the 100 year floodplain.

   The finished floor elevations have been shown, and are 2' or more above the FEMA 100yr floodplain elevations.

Drainage Memo Comments

1. State that the additional impervious area is under 5,000 square feet as required by APWA 5600.

   The Drainage Memo has been updated to address the 3418 sqft of additional impervious area from the proposed development.

2. Provide an exhibit or multiple exhibits that show the existing and proposed development, existing and proposed drainage boundaries and floodplain lines.

   An exhibit has been added to the drainage memo.

Preliminary Development Plans

All Sheets/General Comments

1. Delineate building footprint with a darker line type as it's difficult to discern from parking lot.

   The building footprint line type has been revised.

2. Show and label all columns, elevators and general site features.

   All columns, elevators and general site features have been added to the site plans.

3. Provide a turning template for service and emergency vehicles as required within the site.

   Fire truck access requirements were coordinated with the Fire Marshal of CFD#2 and that their largest truck is 44' from bumper to bumper and 48' from front bumper to back of basket, with a turning radius of 42' wall-to-wall, outside diameter, which is reflected on the plans.

C100/101

1. State ADA van and regular stalls provided in parking chart.

   The number of regular and van ADA spaces has been added to the parking chart.

2. Confirm with city that variances requested are acceptable

   Noted.

3. Show striping or linework to indicate vehicle circulation within parking area. There is a concern with vehicle flow within parking lot.

   Circulation arrows have been added to the site plan.

4. Match legend to linework for floodplain limits hatch.

   The legend for the floodplain limits has been updated.

5. Show internal pedestrian path for ADA route.

   The internal pedestrian path for the ADA route has been added to the site plans.

6. The parking spaces along the east side of the property are directly adjacent to the driveway. Provide an adequate throat length (50' min.) to allow for vehicle queuing and reduce potential conflict when vehicles enter/exit the property via that drive and enter/exit parking spaces.

   The parking layout has been revised to provide a 40' throat length to match the island adjacent to the easterly parking spaces.

7. In SW quadrant of parking lot, it appears that the two parking spaces (one is oriented N/S, the other E/W) would be in conflict with one another, specifically when the N/S vehicle tries to exit. Please resolve.

   The parking layout has been revised to alleviate this conflict.

C200

1. Confirm retaining walls are not needed. If needed, show and state height of walls.

   No retaining walls are required for this project.

Traffic Study Comments

The following comments are in reference to the Traffic Impact Analysis submitted by Cook, Flatt & Strobel Engineers, P.A., dated July 6, 2017, for the Martway Mixed Use Development Project.

1. Page 4 of report: Confirm posted speed limit along Johnson Drive (30 mph or 25 mph).

   Eastbound Johnson Drive west of Beverly posted at 30 mph. Report revised.

2. Neither proposed drive provides alignment with the existing street network or existing access points. Recommend alignment of new drives at intersections (Beverly Avenue and Dearborn Street) to limit offset intersections and decrease the introduction of new conflict points along this segment of roadway.

   a. West Drive – Recommend alignment of the proposed west drive with Beverly Avenue. Intersection analysis sheets provided in the report indicate drive is aligned at the intersection, but the site plan illustrates an offset drive.

      The west entrance driveway was shifted east to align with Beverly Avenue.

b. East Drive – Based on the submitted site plan, it appears that the east drive cannot be aligned with Dearborn Street due to existing property lines. Recommend alignment of the drive with an existing access along the north side of Martway Street. Current drive alignment presents an offset intersection from Dearborn Street as well as existing access points along the north side of Martway Street. The provided intersection analysis sheets illustrate that analysis was conducted with the drive aligned at the intersection.

The east drive lane will be constructed close to its current location, offsetting Dearborn Street by approximately 35 ft, as it has been for the past forty or so years. If the eastern entrance is required to be shifted slightly to the west, we would anticipate minimal changes to the traffic or safety characteristics of the intersections. Also, turning radius for emergency vehicles would be impacted and could result in the loss of parking spaces due to inefficiencies in the layout. The Synchro models of the existing and proposed site conditions were revisited to include offset-links for both of the driveways.

3. Trip Generation:

a. Daily trip generation is not provided.

The traffic study scope received on May 23, 2017, only called for AM and PM peak hour traffic counts, however, the daily trip generation has been included.

b. Trip generation for the retail portion of the site (3,530 sf of retail space) was conducted using a shopping center land use. Based on the size of retail proposed with this development, the specialty retail land use may be more appropriate for this site. Recommend conducting analysis and revising report as necessary.

i. Page 8 of the report references a retail square footage of 3,254 sf in the trip generation paragraph and 3,530 sf in the trip generation table. Revise report as necessary for correct building square footage.

The trip generation calculations and report were revised to the updated 3,491 sqft building area, and changed from Specialty Retail (ITE Code 826) to General Office (ITE Code 710).

c. Trip generation calculations were conducted using the average rate. For the majority of the land uses there is an adequate sample size and the R^2 value is greater than 0.75, thus use of the provided trip generation equation should be considered.

Both trip generation equations and the average rates were examined and higher values used in the traffic models.

4. Operational Analysis:

    a. Unsignalized intersection analysis was conducted with the proposed drives aligning with Dearborn/Beverly. The site plan indicates that these drives are offset. See comment 2 regarding access location recommendations. However, analysis should be conducted to be consistent with the proposed site plan. Analysis indicates a southbound right-turn movement at the intersection of Martway and Beverly associated with proposed traffic. For analysis considering alignment of the intersections, as illustrated on the provided files in the appendix, there should be no additional trips assigned to the southbound right-turn movement.

        The southbound right-turn movements have been eliminated.

    b. It appears that analysis was conducted adding the proposed development trips to the existing volumes. The analysis should take into account the removal of trips associated with the existing development (proposed to be removed). Ie: trips entering and exiting the site should match the trip generation conducted (AM: 27 enter/62 exit, PM: 70 enter, 47 exit).

        The small amount of traffic from the existing site has been removed from the traffic volumes.

5. Parking:

    a. Report states a portion of the provided parking spaces may have 6-8" of overbank water with the 100-year flood, but does not state how many spaces may be impacted. Please address also in Drainage Memo above.

        Both the traffic study and the drainage memo has been updated to address parking lot ponding. The 100 year floodplain limits over parking lot have been shown on Sheet C-203, Proposed Floodplain Plan. The parking lot has been graded such that no parking stall would pond over 7" based on the FEMA floodplain depths.

    b. Report indicates 210 parking spaces are required but the development only provides 175 spaces. Report indicates an additional 35 spots will be leased off site.

        Parking on the revised site has been reduced to 166 spaces and an additional 44 spaces will need to be leased off of the site. The traffic report has been updated to reflect this change.

6. Update report to include intersection figures for traffic volumes (existing, proposed trips, and existing plus proposed), trip distribution and level of service. This will allow for a more expedient review and is consistent with industry standard.

    Added schematic traffic volume figures including: Existing Traffic with incoming & outgoing directional percentages, Site-Generated Traffic, and Total Combined Traffic.

7. Provide a flash drive with all electronic files including Synchro.

Planning Review Comments

Plat Comments

1. Re-platting of the property will be required prior to the issuance of building permits. Right-of-way must be dedicated to include all of the Rock Creek Trail, public sidewalks, and public infrastructure including stormwater facilities. A final plat may be submitted with the final site plan.

   Noted.

Site Comments

2. Please explain the purpose for each of the deviations requested and how they meet the objectives and standards of the planned district regulations (Section 405.070)

   Deviation 1- On site parking requirements reduction- Residential Use and Office Use are highly compatible uses due to the peak demand being offset between day and night use. Large empty parking lots is not the highest and best in a vibrant walkable neighborhood of Mission, so are intent is not to continue this trend. We anticipate that the 14 parking spaces for the business use will easily be handled on site due to this peak day/night offset. An expected operational vacancy for the residential use is 5% which reduces the actual parking demand from 196 to 186 required spaces. This results in a likely scenario of leasing approximately 10 parking spaces off-site.

   The existing adjacent privately owned parking lots totaling over 200 parking spaces, are highly underutilized during day use and largely vacant for night use. We have reached out to several of the property owners and they are agreeable to leasing their surplus spaces for residential use, if needed.

   Deviation 2- Rear yard setback reduction- The proposed building and parking footprint have been designed to maximize the potential of the site. The Rock Creek channel that runs along the rear of the entire property provides a natural landscape buffer of over 30' that exceeds the setback requirement. Additionally the City Park provides an additional buffer of approximately 300'.

   Deviation 3- Maximum building height increase- The Martway Mixed Use project has been designed to accommodate a total unit count that will make the project financially sustainable. As such, the proposed residential unit count, coupled with the site's unique shape have resulted in the proposed design's footprint and overall building height. As illustrated in the composite views, Architectural detailing at the podium level, and the existing tree canopy to the south, and the 300' naturally landscaped City Park will effectively reduce the buildings height. The floodplain has required the building to be built on a podium structure. The fire department access to the rear of the building has dictated the height of the first floor podium elevation. The proposed structure is consistent with the surrounding precedents, the Mission Square building is approximately 56' above grade at its high point and the recently approved Mission Trails project is approximately 63' above grade at its high point. Due to the sloping topography, these projects sit 10' -20' higher than the the Martway site effectively making the proposed structure the lowest of the three

developments in elevation.

Deviation 4- Minimum lot area per multi-family increase- The Martway Mixed Use project has been designed in response to current marketplace trends for increased density as well as developmental targets to make the project an economically sustainable project. To continue developing a vibrant walk-able neighborhood and support the existing business along Johnson Drive additional density is required.

Deviation 5- Parking lot setback reduction- The proposed parking lot is designed to maximize the on-site parking potential to accommodate the residential and commercial parking requirements. The standard 6' dimension is typically related to incompatible uses and we don't want to create an awkward condition between the 2 parking lots (existing and new) at the west property line. Also, the proposed building massing design exceeds the setback requirements to provide more openness between the adjacent property owners to the east and west. As the site design continues to develop, we will look for opportunities to create landscape buffers where feasible and we will submit a proposed solution with final development plan if required. We can also evaluate compact parking dimensions and site optimization as the planning process moves forward in an effort to reduce the overall parking lot width. Please note that the 6' setback at the east property line is compliant. We are seeking this deviation at the west property line only.

Deviation 6- Minimum green space buffer reduction- The proposed parking lot is designed to maximize the on-site parking potential to accommodate the residential and commercial parking requirements. See above response for deviation request #5.

Deviation 7- Interior parking lot tree requirement- In lieu of a large open surface parking lot or multi-level parking deck, the proposed parking has intentionally been placed under the building's footprint to reduce its visual impact to the surrounding areas. As such, tree growth will not be possible. The Rock Creek channel creates a natural landscape buffer that exceeds the requirement.

Deviation 8- Parking lot interior open space requirement- The proposed parking lot is designed to maximize the on-site parking potential to accommodate the residential and commercial parking requirements. The majority of the parking is covered by the building above (so this requirement is more applicable to open suburban surface lots). As the site design continues to develop, we will look for opportunities to create landscape buffers where feasible and we will submit a proposed solution with final development plan if required.

3. Please provide any additional studies or data regarding the anticipated parking demand for this use. These may be counts or observations made at other similar projects for the number of vehicles per dwelling unit. A deviation for the number of required parking stalls may be considered. Staff would prefer this to deviations in parking lot design especially along the west and east property boundaries.

   Based on past experience with mixed use projects located cities of Olathe, Overland Park and KCMO, it is not recommended to deviate from the 210 space parking requirement. As mentioned in our deviation request #1 response for onsite parking reduction, we anticipate that the 14 parking spaces for the business use will easily be handled on site due to this peak day/night offset. An expected operational vacancy for the residential use is 5% which reduces the actual parking demand from 196 to

186 required spaces. This results in a likely scenario of leasing approximately 10 parking spaces off-site. We do not foresee any further reduction in the anticipated parking demand.

4. The tree species shown for shade trees must comply with the City's approved list of street trees per Section 240.070. Please substitute another compliant species.

   The landscape plan has been updated to show compliant species.

5. Automatic irrigation of the streetscape trees is required.

   A note has been added to the landscape plan.

6. Leave sufficient room for the required streetscape elements. A minimum of 15' feet from back of curb to building is suggested. Sidewalks along Martway Street are part of the Rock Creek Trail system and must maintain a 10' wide clear path. See the previous platting comment. A five foot tree planting zone is preferred.

   The plan has been revised to show a 5' planting zone, and a 8' trail with a 10' wide clear path.

7. Please show the pedestrian crosswalk locations along Martway Street and how they relate to the proposed building. Details of pedestrian circulation/access to the building on the site will need to be shown with final site plan drawings.

   Existing and proposed pedestrian crosswalks have been added to the site plan.

8. The establishment of a private sign criteria to serve as the adopted sign code for this development is suggested. The criteria must be approved by the Planning Commission as part of the final site plan (Section 430.120). Staff recommends organizing the sign criteria by building area or use and including an analysis of how the proposed criteria is similar to the City Sign Ordinance. Objective criteria for signs such as type, area, height, number, illumination should to be provided in a separate document at that time. Signs are not approved as part of the site plan review process and individual sign permits must be issued before installation.

   Clockwork is handling this comment.

9. Stories beyond the second story must incorporate a minimum 8' step back from the front facade of lower stories to meet the Johnson Drive Design Guidelines. Please keep this in mind for final site plan review.

   Clockwork is handling this comment.

10. The primary facades of the parking structure along Martway Street should reflect similar materials and building quality as the main building. The Johnson Drive Design Guidelines require first floor buildings along Martway Street to incorporate glazing into at least 75% of the facade.

    Clockwork is handling this comment.

11. Vehicles inside the parking structure must be screened so as to be obscured from view from the street. Additional screening treatment may be required.

    The landscape plan has been revised to show screening between the parking structure and Martway.

12. Please provide additional perspective views of the building from the surrounding neighborhoods to the north and south so the impact to public health, safety, morals, order, convenience, prosperity or general welfare can be evaluated as part of the height deviation review.

    Clockwork is handling this comment.

13. Indicate which area of the parking field will be designated for resident use or business use.

    Business use and resident use spaces have been indicated on the site plans.

14. Surface parking stalls along the Rock Creek Trail must be screening with hardscape and plantings or an equivalent evergreen landscape a minimum of 3' in height.

    The landscape plan has been revised to show screening between the parking structure and Martway.

15. The Johnson Drive Design Guidelines encourage hard surfaced exterior materials that do not artificially simulate other materials. Please explain how Nichiha fiber cement board panels as proposed accomplish this.

    Clockwork is handling this comment.

16. Windows along the ground floor along Martway Street should be elevated above the sidewalks by 18-24". Bulkheads should be constructed out of sturdy materials

    Clockwork is handling this comment.

17. A floodplain development permit will be required per Section 460. Please explain how the proposed design will meet these standards.

    A floodplain permit will be filed based on city standards.

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To: Danielle L. Sitzman, AICP
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City of Mission
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Email: dsitzman@missionks.org

Date: September 15, 2017

From: Todd Howard
Clockwork Architecture & Design
423 Delaware, #102
Kansas City, MO 64133

Project: Martway Mixed Use

RE: Responses to Preliminary Planning Review Comments

Comment # & Response

Plat Comments:

1) Re-platting of the property will be required prior to the issuance of building permits. Right-of-way must be dedicated to include all of the Rock Creek Trail, public sidewalks, and public infrastructure including stormwater facilities. A final plat may be submitted with the final site plan.

Acknowledged.

Site Comments:

2) Please explain the purpose for each of the deviations requested and how they meet the objectives and standards of the planned district regulations (Section 405.070

Refer to attached responses prepared by CFS Engineers.

3) Please provide any additional studies or data regarding the anticipated parking demand for this use. These may be counts or observations made at other similar projects for the number of vehicles per dwelling unit. A deviation for the number of required parking stalls may be considered. Staff would prefer this to deviations in parking lot design especially along the west and east property boundaries.

Refer to attached responses prepared by CFS Engineers.

4) The tree species shown for shade trees must comply with the City's approved list of street trees per Section 240.070. Please substitute another compliant species.

Refer to attached responses prepared by CFS Engineers.

5) Automatic irrigation of the streetscape trees is required.

Refer to attached responses prepared by CFS Engineers.

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6) Leave sufficient room for the required streetscape elements. A minimum of 15' feet from back of curb to building is suggested. Sidewalks along Martway Street are part of the Rock Creek Trail system and must maintain a 10' wide clear path. See the previous platting comment. A five foot tree planting zone is preferred.

Refer to attached responses prepared by CFS Engineers.

7) Please show the pedestrian crosswalk locations along Martway Street and how they relate to the proposed building. Details of pedestrian circulation/access to the building on the site will need to be shown with final site plan drawings.

Refer to attached responses prepared by CFS Engineers.

8) The establishment of a private sign criteria to serve as the adopted sign code for this development is suggested. The criteria must be approved by the Planning Commission as part of the final site plan (Section 430.120). Staff recommends organizing the sign criteria by building area or use and including an analysis of how the proposed criteria is similar to the City Sign Ordinance. Objective criteria for signs such as type, area, height, number, illumination should to be provided in a separate document at that time. Signs are not approved as part of the site plan review process and individual sign permits must be issued before installation.

Refer to new Signage Details 11"x17" sheet. The signage criteria has been organized by building area and includes objective criteria for sign type, area, height, number and illumination. All building signage shall comply with Mission design guidelines and section 430.120 'Private Sign Criteria'.

9) Stories beyond the second story must incorporate a minimum 8' step back from the front facade of lower stories to meet the Johnson Drive Design Guidelines. Please keep this in mind for final site plan review.

Acknowledged. We understand that this guideline relates to the historical buildings along Johnson Drive to respect the scale of the existing single story buildings and provide setback relief from the street to simulate the vernacular of a historical downtown main street. Given that this project is not directly on Johnson Drive and the existing adjacent and surround buildings do not provide an 8' step back from their front façade of the lower stories, the current design aligns with the existing context and fabric on Martway Street. An 8' setback at the second floor and above would result in the loss of 14 units per floor or 56 total units for floors 2-5 parallel to Martway street. A redesign to push the building further back into the site would conflict with alleviating building massing concerns for the residents directly behind the project along 61st Street.

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10) The primary facades of the parking structure along Martway Street should reflect similar materials and building quality as the main building. The Johnson Drive Design Guidelines require first floor buildings along Martway Street to incorporate glazing into at least 75% of the facade.

The primary façade of the parking structure does reflect similar materials and building quality of the main building. The Nichiha wood wall panel is used as an accent on the main building at the back wall of all balcony insets and between windows. Per the Mission Design Guidelines, lower levels of buildings should be differentiated architecturally from upper levels, which is reflected in the current design.

Regarding glazing and openness area at the first floor, calculations have been provided on the elevations showing the overall area of the first floor façade (6,861 sf) and the area and percentage of glazing and openness (3,762 sf) (55%). Refer to A200.

Please note that glazing area was reduced 170 sf (5%) to provide an 18" bulkhead per planning comment #16.

11) Vehicles inside the parking structure must be screened so as to be obscured from view from the street. Additional screening treatment may be required.

Refer to attached responses prepared by CFS Engineers.

12) Please provide additional perspective views of the building from the surrounding neighborhoods to the north and south so the impact to public health, safety, morals, order, convenience, prosperity or general welfare can be evaluated as part of the height deviation review.

Three additional photomontage/composite views have been added. Refer to A202.

13) Indicate which area of the parking field will be designated for resident use or business use.

Refer to attached responses prepared by CFS Engineers.

14) Surface parking stalls along the Rock Creek Trail must be screening with hardscape and plantings or an equivalent evergreen landscape a minimum of 3' in height.

Refer to attached responses prepared by CFS Engineers.

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todd@clockwork-ad.com

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15) The Johnson Drive Design Guidelines encourage hard surfaced exterior materials that do not artificially simulate other materials. Please explain how Nichiha fiber cement board panels as proposed accomplish this.

Nichiha fiber cement board panels are a hard surface exterior material. Only one of the three panel types that have been specified simulate another material, wood. When compared to wood, the Nichiha fiber cement panel is more durable, requires less maintenance, has better color stability, is resistant to delamination, resists warping, rotting and pests, has a fire rating and is a higher end product when compared to the cost of wood. The Nichiha fiber cement panel carries a 15 year warranty, which cannot be provided with true wood. Please see attached Nichiha vs wood comparison chart.

16) Windows along the ground floor along Martway Street should be elevated above the sidewalks by 18-24". Bulkheads should be constructed out of sturdy materials.

An 18" tall bulkhead has been added to base of the ground floor windows along Martway. Refer to A200.

17) A floodplain development permit will be required per Section 460. Please explain how the proposed design will meet these standards.

Acknowledged. A floodplain permit will be filed based on city standards.

WOOD CLADDING COMPARISON CHART

See how Nichiha's Wood Series Architectural Wall Panels stack up against the competition...

	NATURAL WOOD	PARKLEX FACADE	NICHIHA fiber cement the power of possibilities™	LONGBOARD	RESYSTA
Wood Texture	✓		✓		✓
Color Stability		✓	✓	✓	✓
Exclusive manufacturer of wall cladding			✓	✓	
Integrated Rainscreen		✓	✓	✓	
Easy Installation	✓		✓	✓	✓
Fire Rating		✓	✓	✓	
Resistant to warping rotting and pests		✓	✓	✓	✓
50-year or more limited lifetime warranty			✓	✓	
Resistant to delamination			✓	✓	✓
Budget friendly	✓		✓		✓

Safety Data Sheet (SDS)

[1. PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME	Nichiha NichiProducts: NichiBoard, NichiPanel, NichiShake, NichiStaggered, NichiStraight, NichiSoffit, NichiTrim, NichiFrontier
MANUFACTURER	Nichiha USA, Inc.
ADDRESS	3150 Avondale Mill Road, Macon, GA 31216
HEADQUARTERS ADDRESS	6565 East Johns Crossing, Johns Creek, GA 30097
PHONE	866-424-4421
DATE PREPARED	June 2015

[2. SUMMARY OF HAZARDOUSNESS/HARMFULNESS]

GHS classification

Health harmfulness

- Skin corrosivity/irritation: Classification 1
- Serious eye damage/eye irritation: Classification 1
- Carcinogenicity: Classification 1A
- Specific target organ toxicity (single exposure): Classification 1 (respiratory system)
- Specific target organ toxicity (repeated exposures): Classification 1 (respiratory system, kidney)

GHS label element(s)

Symbols

Signal Word: DANGER

Hazard Statements

- Serious chemical damage to skin
- Serious eye damage
- Carcinogenicity
- May damage the respiratory system if inhaled.
- May damage the respiratory system or kidneys through long-term or repeated exposures.

Safety Measures

- Wash your hands and face thoroughly after handling the product.
- Wear protective gloves, clothes, goggles and mask.
- Do not inhale powder dust.
- Do not eat, drink or smoke while using this product.

First-aid Measures

- Inhalation: Move the victim to a place with fresh air and rest patient in the posture comfortable for breathing.
- Skin contact: Immediately take off/remove all contaminated clothes. Wash the skin under running water.
- Eye contact: Rinse the eye with water carefully for a few minutes. Next, if contact lenses are worn, remove them if easy to remove. Continue washing the eye with water. Immediately seek medical advice/attention.
- When ingested: Wash the mouth. Do not induce vomiting.
- When reusing the contaminated clothes: Wash them prior to use.
- Seek medical attention if you were exposed or feel sick.

Disposal

- Follow applicable local, state, and federal construction waste management requirements. Prevent potential dust exposure for others.

[3. COMPONENT/INFORMATION ON INGREDIENTS]

Classification of single product or mixture: Mixture

Ingredients: Cement, silicate material, organic fiber, additives

NAME	CAS#	%content
Crystalline silica	14808-60-7	0 ~ 10
Calcium silicate	1344-95-2	30 ~ 60
Cellulose	9004-34-6	5 ~ 10
Mica	12001-26-2	3 ~ 5

- The product does not contain asbestos.
- The product does not contain formaldehydes.

[4. FIRST AID]

Eye contact: Immediately wash the eye for at least 15 minutes using clean water and then seek attention of a doctor.

Skin contact: Immediately wash the skin thoroughly with soap and water. Seek medical attention as needed if irritation develops or persists.

Inhalation: Immediately move to a place with fresh air away from dust, gargle with water, and seek medical attention as needed.

Ingestion: Wash the inside of the mouth thoroughly with water and seek medical attention. If the victim is groggy or unconscious, do not induce vomiting, but seek medical attention without delay.

When exposed or potentially exposed to silica dust: Seek medical attention/treatment as necessary.

[5. MEASURES TAKEN IN CASE OF FIRE]

Flammability of the product: Non-combustible when tested under ASTM E136.

Extinguishing method: Cut off the combustion path to the source of fire and extinguish the fire using water and fire-extinguishing medium. Fight the fire from the upwind side and wear respiratory protection gear if necessary.

Fire-extinguishing media: Water, powder, carbonic acid gas, foam

[6. MEASURES TAKEN IN CASE OF LEAK]

The product is normally in a solid sheet-shaped state, so no special measures are needed.

[7. HANDLING AND STORAGE PRECAUTIONS]

Handling:
- Wear protective gloves (work gloves, etc.) when handling the product.
- Provide local exhaust measures when cutting the material and use cutting equipment with anti-dust function. Also wear proper protective equipment (anti-dust mask, protective goggles, etc.) so as not to inhale powder dust or let it enter the eyes.
- Clean dust with HEPA filter equipped vacuum. Do not dry sweep or use compressed air.
- Do not wet the product.
- Rinse face, hands, mouth, etc., with water after handling the product.

Storage: Store the product away from water.

[8. MEASURES FOR PREVENTION OF EXPOSURE]

See below if powder or dust is generated from cutting or otherwise processing the product.

Japan Society for Occupational Health (2014)

Inhalant crystalline silica	0.03 mg/m^3 (TWA)
Inhalant powder dust	1 mg/m^3 (TWA)
Total powder dust	4 mg/m^3 (TWA)

ACGIH TLV (2006):

Crystalline silica	0.025 mg/m^3 (TWA)
Inhalant powder dust	3 mg/m^3 (TWA)
Total powder dust	10 mg/m^3 (TWA)

OSHA PEL (2015) (Refer to 29 CFR 1910 Table Z-3 regarding mineral dusts):

Crystalline silica (Quartz)	(Action Level)	25 µg/m^3 (TWA)
	(Permissible Exposure Limit [PEL])	50 µg /m^3 (TWA)
Calcium Silicate	(Respirable Fraction)	5 mg/m^3 (TWA)
	(Total)	15 mg/m^3 (TWA)
Cellulose	(Respirable Fraction)	5 mg/m^3 (TWA)
	(Total)	15 mg/m^3 (TWA)

NIOSH REL (2015)

Mica	(Respirable Fraction)	3 mg/m^3 (TWA)

Facility/Engineering Measures: Cut the product outdoors or in a well-ventilated place using a saw with fiber cement saw blades and dust-collecting function. When handling the product indoors, provide a ventilation system, etc., to keep the concentration of airborne dust to the controlled level or below or cut using fiber cement shears.

Personal Protective Equipment:

Eyes:	Anti-dust goggles compliant with ANSI Z87.1.
Hands:	Protective work gloves, regularly washed.
Respiratory:	Use a properly-fitted N, O, or P 100 respirator when cutting or otherwise abrading product.
Skin:	Select personal protective equipment for the body based on the task being performed. Pants, long-sleeve shirts recommended to prevent skin from dust exposure.

[9. PHYSICAL AND CHEMICAL PROPERTIES]

Appearance:	Sheet shaped
Bulk specific gravity:	1.2 ± 0.2
Solubility:	Insoluble in water

[10. STABILITY AND REACTIVITY INFORMATION]

Stability/Reactivity:	Stable
Hazardous/harmful reaction potential:	Not applicable
Hazardous/harmful decomposition products:	Not applicable

[11. INFORMATION ON TOXICOLOGY/HARMFULNESS]

Acute toxicity: No data is available.

Skin corrosivity/irritation and serious damage/irritation to eye:

・If product comes into contact with water, it may exhibit strong alkalinity (pH12 to 13) and cause irritation to the eye, nose and skin as well as inflammation to the cornea, tissues inside the nose, and skin.

Respiratory organ sensitization or skin sensitization:

・The cement contains a trace amount of chromium compound and may cause allergic reaction in people sensitive to hexavalent chromium.

Carcinogenicity: No data is available.

・The product is classified under carcinogenicity classification 1A because it contains crystalline silica.

Reproductive cell mutagenicity: No data is available.

Reproductive toxicity: No data is available.

Specific target toxicity (single exposure): No data is available.

・The product is classified as specific target toxicity (single exposure) classification 1 (respiratory system) because it contains crystalline silica that is classified as having specific target toxicity (single exposure).

Specific target toxicity (repeated exposures): The product may cause pneumoconiosis if inhaled in large quantities over a long period of time.

・The product is classified as specific target toxicity (repeated exposures) classification 1 (respiratory system) because it contains crystalline silica that is classified as having specific target toxicity (repeated exposures).

[12. INFORMATION ON ENVIRONMENTAL IMPACT]

Environmental impact/bio-toxicity

・Exercise caution to prevent negative environmental impact, water may exhibit strong alkalinity (pH12 to 13) with prolonged exposure.

[13. PRECAUTIONS ON DISPOSAL]

Follow all local, state, and federal regulations with respect to construction waste material disposal. When cleaning up dust, never dry sweep. Wet the dust prior to sweeping or use a HEPA vacuum. Take measures to prevent potential dust exposure to others.

[14. PRECAUTIONS ON TRANSPORT]

Information on codes and classifications under international regulations: Not applicable

Specific safety measures and conditions for transport:

・Prevent collapse of cargo, etc., without fail.

・Pay attention to prevent wetting.

[15. REGULATORY INFORMATION]

United States inventory (TSCA) listed items: Quartz – Crystalline Silica (14808-60-7), Calcium Silicate (1344-95-2).

SARA 302/303: No Extremely Hazardous Substances.

SARA 311/312:	Acute	Chronic	Fire	Pressure	Reactive
Crystalline Silica (Quartz)	yes	yes	no	no	no

[16. OTHER INFORMATION]

Cited Literatures

・JIS Z 7253: 2012 (Japan)

・Health, Labour and Welfare Ministry's Workplace Safety Site, Information on GHS-compliant Model Labeling/Model SDS (Japan)

This data sheet has been prepared based on documents, information and data currently available, but the contents, physical/chemical properties, hazardousness information and other values are not guaranteed. Also note that the cautionary instructions assume normal handling, and if the product will be handled in any special manner, implement safety measures appropriate for the specific application/method of use.

September 20, 2017

City of Mission
Community Development
Attention: Danielle L. Sitzman, AICP
6090 Woodson St.
Mission, Kansas 66202

RE: **Project Name:** Martway Mixed Use – Preliminary Development Plan – Site Civil & Traffic Review

Dear Ms. Sitzman,

We have completed our review of the 2nd submittal for the above mentioned Preliminary Development Plan. If approved, we would recommend the following stipulations be applied:

Martway Multifamily
Olsson Review for Preliminary Plan 2nd Submittal – 9-20/17

Floodplain Stipulations:

1. All design and construction must meet the provisions Article IV, Chapter 460 of the City Code
2. Any enclosed building space including mechanical equipment areas (such as equipment in elevator sumps) must be 2' above FEMA floodplain or must be water proofed.
3. At time of Final Development Plan application, a variance from Article IV of city code must be obtained for any parking or building areas that encroach into the Floodway. This will require a flood study that shows that the project does not increase the 100-year water surface elevation.
4. Prior to building permit, a Floodplain Development Permit shall be obtained from the City, including a study or documentation showing the proposed project will not increase 100-yr water surface elevations.
5. Prior to issuance of a building permit, a Floodplain fills permit from the State of Kansas shall be obtained.
6. Prior to close out of the Floodplain Permit a LOMR-F and elevation certificate is required.

Drainage Memo Stipulations:

1. At time of Final Development Plan application, provide an exhibit or multiple exhibits that show the existing and proposed development, existing and proposed drainage boundaries and floodplain lines. Please provide drainage boundaries, CN values, and flow for each drainage area within the site and all off-site water entering the site for the existing and proposed condition.
2. At time of Final Development Plan application, show and explain how drainage from the site is being collected (within storm sewer or overland flow), routed and discharged at the stream to for adequate erosion control protection.

Preliminary Development Plan Stipulations

1. At time of Final Development Plan application please address the drive aisle width in the two areas near the center of the lot. The 25’ dimension provided in two areas near the center of the lot is not adequate as the angle of turns within the lanes is severe and driving lanes are unclear. It appears the drive lane conflicts with pedestrian circulation areas near the elevators. Additional striping showing the lanes in these areas must be provided. A turning template showing cars within each lane must be provided. Stalls in these areas may need to be eliminated to resolve the problem.
2. At time of Final Development Plan application show revised ADA paths to not be within drive lanes parallel with traffic flow as shown in the west entrance. Where ADA paths cross drive lanes, pedestrian paths must be striped.

Traffic Study Stipulations

1. At time of Final Development Plan application, please submit a revised traffic study with corrected trip generation data. The retail land use has now changed to office therefore the am and pm peak trips will change. Provide a flash drive with all electronic files including Synchro. (See attached Martway Mixed-Use Development Traffic Impact Analysis Review Letter dated September 20, 2017 for additional comments)

If you have any questions or comments or need additional information, please do not hesitate to contact me at 913-381-1170 or bsonner@olssonassociates.com.

Sincerely,

Brad Sonner, PLA, LEED AP
Vice President

Martway Mixed-Use Development Traffic Impact Analysis Review

The following comments are in reference to the *Traffic Impact Analysis* (revised submittal) submitted by Cook, Flatt & Strobel Engineers, P.A., dated September 13, 2017, for the Martway Mixed Use Development Project.

A full review of the submitted traffic impact study cannot be completed due to inaccurate trip generation calculations which will impact trip distribution and capacity analysis for the site. Review will be conducted after submittal of a revised traffic impact study.

1. Trip Generation:
    a. The traffic impact study has been revised for office space (previously retail). The site plan and parking demand analysis submitted to the City indicate retail land use. The traffic impact study should reflect the use proposed for the site and be consistent with the site plan.
    b. Trip generation calculations are inaccurate. Specifically, the office space should be reviewed. The estimated number of trips are not correct. Additionally, office space does not have a 50% entering/exiting split for the AM and PM peak hour periods. Trip generation calculations should be updated and trip distribution and capacity analysis appropriately revised.
        i. To ensure trip generation is accurate, updated calculations may be submitted to the City, prior to completion of the final traffic impact study, for review. This information must be submitted in a timely manner to allow for review and comments (if necessary) to be returned prior to the final submittal.
2. Provide a flash drive with all electronic files including Synchro. This allows for more efficient review.

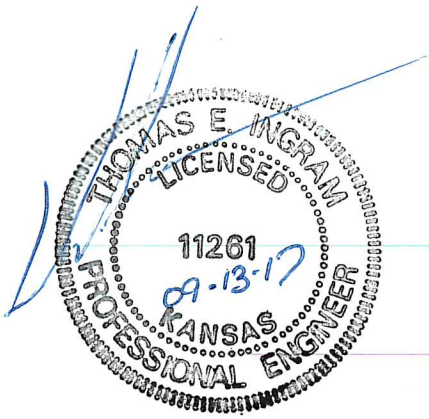
It is recommended that the revised final traffic impact study be submitted a minimum two weeks prior to the City submittal deadline for the final development plan. Adequate time is necessary to conduct a thorough review of the study, allow for comments to be addressed by the submitter, and City staff to develop final comments.

CFS ENGINEERS
cfse.com

MARTWAY MIXED USE DEVELOPMENT
Proposed Building Redevelopment and Parking
6045 Martway
Mission, Kansas 66202
CFS Project No. 17-5085

Traffic Impact Analysis

September 13, 2017



Prepared for:
Clockwork Architecture & Design
423 Delaware, Suite 102
Kansas City, Missouri 64105

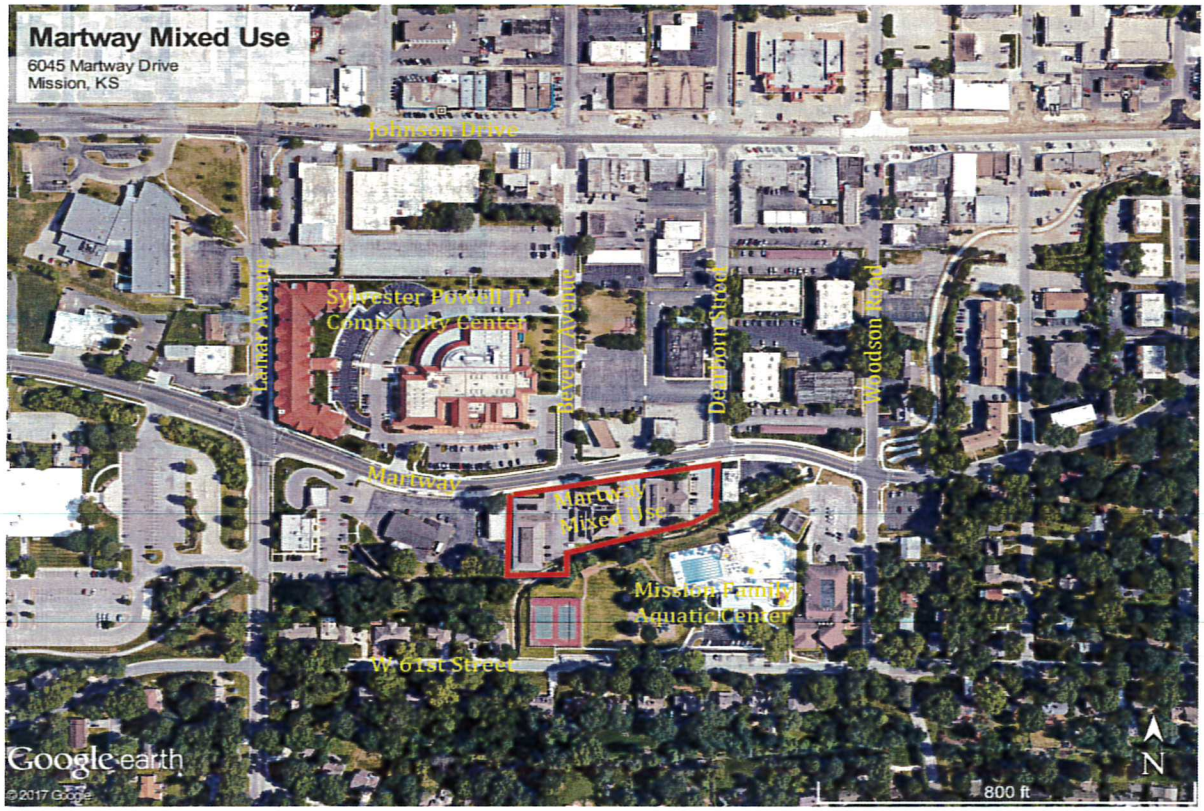
Prepared by:
Cook, Flatt & Strobel Engineers, P.A.
1421 E 104th Street, Suite 100
Kansas City, Missouri 64131
816-333-4477

Table of Contents

Review of Existing Site Conditions

This Traffic Impact Analysis for the proposed Martway Mixed Use building and parking lot improvements at 6045 Martway in Mission, Kansas, has been prepared in accordance with the City of Mission's Street Design Criteria. The proposed 1.767 acre site calls for the removal of three existing single-story office buildings along the southern side of Martway Street between Beverly Avenue and Dearborn Street and replacing them with a multi-story apartment building elevated on piers to provide street-level parking.

The site is bounded on the north by Martway Street, on the south by Rock Creek, and along the east and west by low-rise commercial/office buildings. Johnson Drive and Mission's downtown shopping area is located less than a quarter mile to the north. The Sylvester Powell Jr. Community Center is located to the northwest. The Mission Aquatic Center is located across Rock Creek to the southeast.



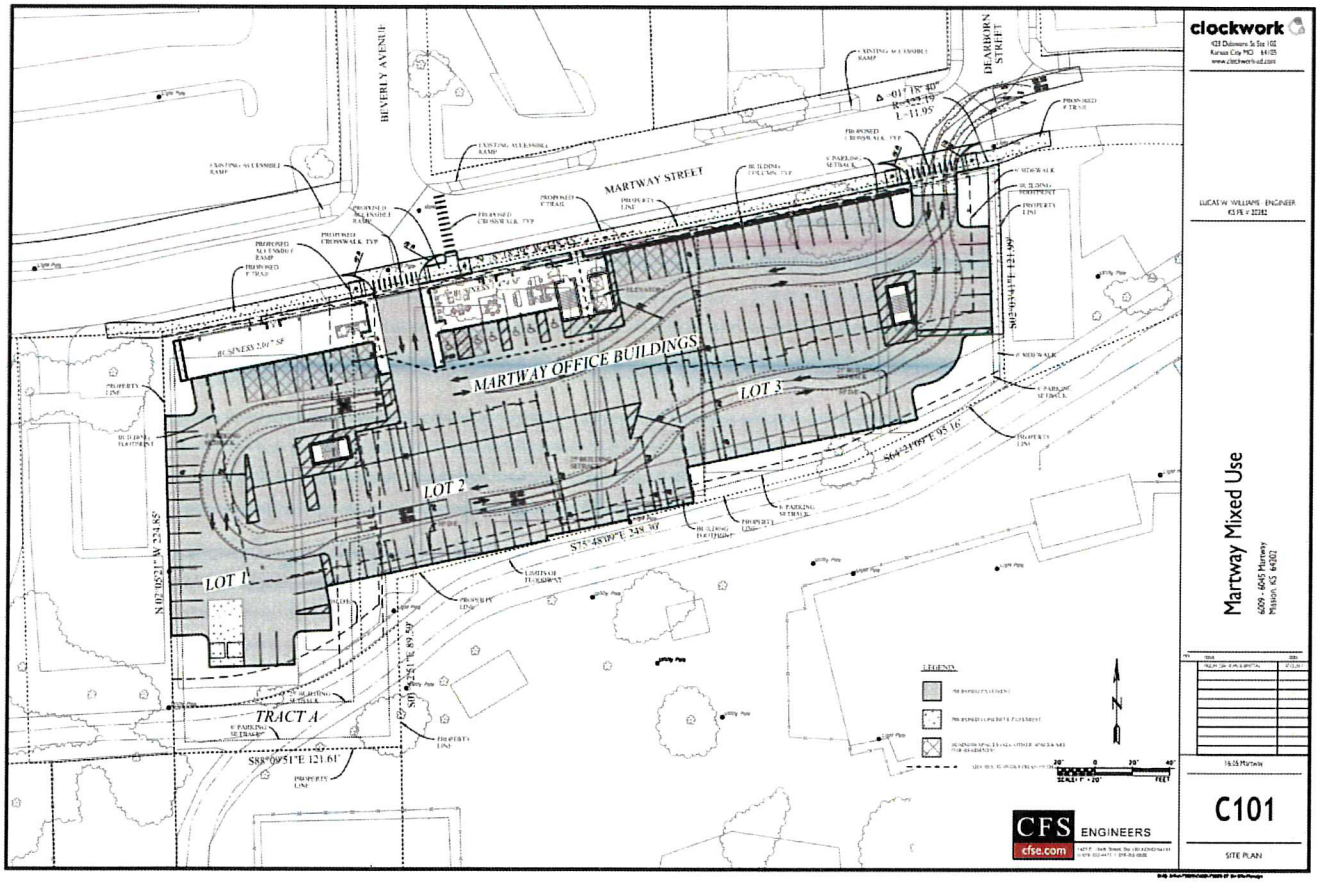
Site Location Map, Mission, Kansas
Proposed Martway Mixed Use Development

Area Street and Highway Network: The existing streets around the Martway Mixed Use Development site include:

- Martway Street – Two-lane collector.
  - Posted speed limit of 25 mph.
- Lamar Avenue – Two-lane collector.
  - Posted speed limit of 30 mph.
- Johnson Drive – Four-lane thoroughfare.
  - Posted speed limit of 30 mph.
- Beverly Avenue – Two-lane local.
  - Posted speed limit of 25 mph.
- Dearborn Street – Two-lane local.
  - Posted speed limit of 25 mph.
- Woodson Road – Two-lane local.
  - Posted speed limit of 25 mph.
- W. 61st Street – Two-lane local.
  - Posted speed limit of 25 mph.

The existing intersection of Martway & Beverly Avenue is a tee intersection with a 25 ft+/- offset driveway for the existing office building parking lot. For the proposed improvements, the existing driveway would be shifted to the east to align with Beverly Avenue. Both Martway Street and Beverly Avenue are two lane, 28 ft wide (back of curb to back of curb). The intersection corner radii are 25 ft. There are sidewalks along the north and south sides of Martway and along the west on Beverly. There is a painted crosswalk across the northern leg of the intersection. The intersection is stop controlled with free movement for the east and westbound traffic on Martway and a stop sign for southbound traffic on Beverly.

Grades along Martway are less than 2% and the intersection sight distance from the proposed western driveway entrance to the Martway Mixed Use Development was estimated at approximately 500 ft looking east and approximately 450 ft looking west. Martway has a posted speed limit of 25 mph. A realistic design speed for regular traffic was estimated at 35 mph. AASHTO's Exhibit 9-55, Design Intersection Sight Distance-Case B1- Left Turn from Stop, requires a design intersection sight distance of 390 ft at a design speed of 35 mph. AASHTO's Exhibit 9-58, Design Intersection Sight Distance-Case B2- Right Turn from Stop, requires a design intersection sight distance of 335 ft at a design speed of 35 mph. The proposed western driveway entrance to the Martway Mixed Use Development appears to have adequate intersection sight distance.



Proposed Martway Mixed Use Site Plan and Street-Level Parking Layout

The existing intersection of Martway & Dearborn Street is a tee intersection with a 35 ft+/- offset driveway for the existing office building parking lot. For the proposed improvements, the existing driveway would be held in the same location. Both Martway and Dearborn Street are two lane, 28 ft wide (back of curb to back of curb). The intersection corner radii are 25 ft. There are sidewalks along the north and south sides of Martway and along the west on Dearborn. There is a painted crosswalk across the northern leg of the intersection. The intersection is stop controlled with free movement for the east and westbound traffic on Martway and a stop sign for southbound traffic on Dearborn.

Grades along Martway are less than 2% and the intersection sight distance from the proposed eastern driveway entrance to the Martway Mixed Use Development was estimated at approximately 400 ft looking east and approximately 700 ft looking west. Martway east of the driveway entrance curves to the south, so motorists would have to turn their heads further to observe oncoming traffic, but the there are no physical obstructions within the right-of-way to obscure the view. Martway has a posted speed limit of 25 mph. A realistic design speed for regular traffic was estimated at 35 mph. AASHTO's Exhibit 9-55, Design Intersection Sight Distance-Case B1- Left Turn from Stop, requires a design intersection sight distance of 390 ft at a design speed of 35 mph. AASHTO's Exhibit 9-58, Design Intersection Sight Distance-Case B2- Right Turn from Stop, requires a design intersection sight distance of 335 ft at a design speed of 35 mph. The proposed eastern driveway entrance to the Martway Mixed Use Development appears to have adequate intersection sight distance.

There are no known programmed improvements or future planned improvements for any of the roadways listed above in the region surrounding the Martway Mixed Use site.

Land Uses and Proposed Density: For the proposed 1.767 acre site, three lots would be combined into one (parcels KP20600000 0001, 0002 & 0003). The site has a current land use of offices with three existing single-story office buildings with a total footprint of approximately 34,465 sqft. For the proposed mixed use apartments and general office space, the existing buildings would be demolished and replaced with a multi-story apartment building with 156 units and 3,491 sqft of general office space. The main building would be raised on support piers to allow for parking beneath the structure. The general office space would be on the ground floor/parking level, comprised of two enclosed building sections flanking the sides of the entrance drive even with Beverly Avenue.

Water Conflicts: The FEMA FIRM Panel 20091C0024G indicates that a portion of the site is designated within 100-year flood zone AE from flooding from the adjacent Rock Creek which flows along the rear property line. In a 100-year flooding event, approximately 40 parking spaces along the creek could have up to seven inches of overbank water. A portion of the existing parking lot has been in the floodplain fringe area, and the reconfigured parking would closely match the existing parking limits in this area.

Existing Alternative Transportation Mode Choices: There are sidewalks along both sides of Martway Street, along the western side of Beverly Avenue, and along the western side of Dearborn Street. Portions of the Rock Creek Walking Trail coincide with the widened sidewalk section along the southern side of Martway Street fronting the proposed site. There are no designated bicycle lanes on any of the surrounding streets. There are Johnson County bus transit service stops on both sides of Martway Street approximately 300 ft west of Beverly Avenue.

Anticipated Phasing and Time-line: Construction is anticipated to begin in the spring of 2018 and would take approximately 18 months.

Existing and Projected Traffic Volumes

Existing Traffic Volumes: Weekday AM and PM Peak Hour traffic counts were taken at the intersections of Martway & Beverly Avenue and at Martway & Dearborn Street. Traffic volumes were recorded in 15 minute intervals on Wednesday June 14, 2017 and on Thursday June 15, 2017 during the AM Peak Hour from 7AM to 9AM and during the PM Peak Hour from 4PM to 6PM. Bad weather conditions or national holiday traffic did not impact traffic counts. The following tables summarize the traffic volumes measured for a typical AM and PM Peak Hour on a weekday:

Martway & Beverly Avenue, AM Peak Hour Traffic Movements (Wednesday, 06-14-17)

PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.94	56	160	2	3	124	35	1	0	1	19	0	41

Martway & Beverly Avenue, PM Peak Hour Traffic Movements (Wednesday, 06-14-17)

PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.91	36	253	0	0	274	36	1	0	3	42	0	76

Martway & Dearborn Street, AM Peak Hour Traffic Movements (Thursday, 06-15-17)

PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.92	16	131	7	3	137	5	1	0	1	5	1	24

Martway & Dearborn Street, PM Peak Hour Traffic Movements (Thursday, 06-15-17)

PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.92	32	268	0	1	244	16	6	0	3	12	0	26

The PM peak hour traffic was notably heavier than the AM. Directional east-west distribution along Martway Street was roughly even during both AM and PM peak hours. The following tables show the measured traffic volumes and directional distribution percentages used to develop the trip distribution of the additional trip generation volumes:

Directional Distribution (AM Incoming)

Intersection	Direction	Volume	Percentage
Beverly & Martway	EB	218	48.3%
	SB	60	13.4%
Dearborn & Martway	WB	145	31.8%
	SB	30	6.5%
Total		457	100.0%

Directional Distribution (AM Outgoing)

Intersection	Direction	Volume	Percentage
Beverly & Martway	WB	166	40.0%
	NB	91	22.0%
Dearborn & Martway	EB	137	32.9%
	NB	21	5.1%
Total		431	100.0%

Directional Distribution (PM Incoming)

Intersection	Direction	Volume	Percentage
Beverly & Martway	EB	289	41.0%
	SB	118	16.7%
Dearborn & Martway	WB	261	36.9%
	SB	38	5.4%
Total		719	100.0%

Directional Distribution (PM Outgoing)

Intersection	Direction	Volume	Percentage
Beverly & Martway	WB	351	46.7%
	NB	72	9.6%
Dearborn & Martway	EB	283	37.3%
	NB	48	6.4%
Total		755	100.0%

Site's Trip Generation and Design Hour Volume Data

Trip Generation and Design Hour Volume Data: Trip generation calculations utilized the land use types categorized by the Institute of Transportation Engineer's Trip Generation Guidelines, 9th Edition. The ITE Land Use categories used to estimate the traffic volumes anticipated to be generated by the site were Apartments (ITE Code 220) and General Office (ITE Code 710). The estimated number of trips generated by the buildings were calculated based on the total 156 dwelling units (DU) in the apartments and 3,491 sqft of floor area for the general office space. Both the ITE's trip generation equations and the average rates were used to calculate the site-generated traffic, and the higher/more conservative figures were used to model the proposed traffic characteristics of the development. The following table shows the parameters for measurement units, total trip generation volumes for the weekday AM and PM peak hour traffic, and the corresponding total vehicles for AM and PM peak hour traffic and the total weekday traffic at the site:

ITE Traffic Generation Volumes for the Proposed Site Improvements (vph)

Description / ITE Code	Units	AM Total	AM Enter	AM Exit	PM Total	PM Enter	PM Exit	Weekday Total
Apartments (220)	156 DU	87	25	62	109	66	43	1069
General Office (710)	3.49 KSF	16	8	8	6	3	3	156
Total		103	33	70	115	69	46	1225

Reductions for Pass-By and Diverted-Link Trips: Not applicable for apartments, and the amount of general office space was relatively small compared to the entire development, so pass-by and diverted-link trips were not included in the proposed trip distribution and traffic assignment.

Trip Distribution and Traffic Assignment

Trip Distribution and Traffic Assignment: Trip distribution patterns were determined based on a gravity model based on the peak hour counts around the development's surrounding origins and destinations. Directional percentages were applied along incoming and outgoing paths so that site-generated trips could be distributed proportionally. Appendix III includes trip generation calculations and traffic distribution diagrams for the existing traffic volumes, the site-generated traffic and the existing plus site-generated traffic for the AM and PM peak hour conditions.

Capacity Analysis

Creating Synchro Scenarios: Using the traffic counts and the ITE trip generation volumes, four Synchro models were created for the traffic conditions surrounding the site.

- Scenario 1 - Existing street/pre-development conditions
  (Pre-development AM Peak Traffic 2017)
- Scenario 2 - Proposed site with trip-generated conditions
  (Post-development AM Peak Traffic 2017)
- Scenario 3 - Existing street/pre-development conditions
  (Pre-development PM Peak Traffic 2017)
- Scenario 4 - Proposed site with trip-generated conditions
  (Post-development PM Peak Traffic 2017)

Capacity and Level of Service Analysis: Three performance measures commonly used for Traffic Impact Studies are vehicle delay, level-of-service (LOS), and queue length. Vehicle delay is the average delay, in seconds, experienced by one vehicle passing through the intersection. The quality of traffic operation at an intersection is defined through level-of-service (LOS) which consists of assignments of 'A' for free-flowing conditions through 'F' for congested conditions. The procedures and methodology for determining the LOS are outlined in the Highway Capacity Manual (HCM 2010), produced by the Transportation Research Board. LOS 'A' through 'C' is considered acceptable. For intersections, no individual lane should be below LOS D. 95th percentile queue length is the overall length of a string of stopped vehicles. Note that for stop control intersections, the queue length is measured in terms of accumulated number of vehicles which would be lined up waiting to proceed. The "-" symbol represents shared lane or non-existent movement, thus no queue length given. The results of the Synchro models for the left-turn movements at the intersections of Martway & Beverly Avenue are summarized in the table below (Delays are in seconds and Queues are in vehicle lengths set at a nominal 25 ft for the actual length of the design vehicle plus the buffer spacing between vehicles):

Martway & Beverly Avenue (Two-Way Stop Controlled)

Scenario	Intersection Delay (sec)	NBL D-LOS-Q	EBL D-LOS-Q	WBL D-LOS-Q	SBL D-LOS-Q
1-AM-Pre	2.4	0/A/0	7.7/A/0.1	0/A/0	10.5/B/0.3
2-AM-Post	3.2	12.4/B/0.2	7.7/A/0.1	7.6/A/0	11.2/B/0.4
3-PM-Pre	2.7	0/A/0	8/A/0.1	0/A/0	13.9/B/0.9
4-PM-Post	3.5	15.3/C/0.2	8.1/A/0.1	7.9/A/0	16.1/C/1.3

Martway & Beverly Avenue (Two-Way Stop Controlled): At the Beverly Avenue intersection, the intersection delay was 2.4 sec (LOS A) in the AM and 2.7 sec (LOS A) in the PM for the pre-development scenarios. The post-development scenarios intersection delays increased marginally to 3.2 sec (LOS A) in the AM and 3.5 sec (LOS A) in the PM. Eastbound and westbound movements were free except for the left-turns which had to yield to oncoming traffic. EB and WB average delay for left-

turns ranged from 7.6 sec (LOS A) to 8.1 sec (LOS A) throughout all scenarios. Northbound delays increased to 12.4 sec in the AM and 15.3 sec in the PM for the post-development scenario. Southbound delays increases to 11.2 sec in the AM and 16.1 sec in the PM for the post-development scenario. The longest 95th percentile queue length of any of the scenarios was 1.3 vehicle lengths.

Martway & Dearborn Street Avenue (Two-Way Stop Controlled)

Scenario	Intersection Delay (sec)	NBL D-LOS-Q	EBL D-LOS-Q	WBL D-LOS-Q	SBL D-LOS-Q
1-AM-Pre	1.2	0/A/0	7.6/A/0	0/A/0	9.5/A/0.1
2-AM-Post	2.3	11.1/B/0.2	7.6/A/0	7.6/A/0	9.7/A/0.1
3-PM-Pre	1.1	0/A/0	7.9/A/0.1	0/A/0	11.7/B/0.2
4-PM-Post	1.8	14.6/B/0.2	7.9/A/0.1	7.9/A/0	12.5/B/0.3

Martway & Dearborn Street (Two-Way Stop Controlled): At the Dearborn Street intersection, the intersection delay was 1.4 sec (LOS A) in the AM and 1.3 sec (LOS A) in the PM for the pre-development scenarios. The post-development scenarios intersection delays increased marginally to 2.3 sec (LOS A) in the AM and 1.8 sec (LOS A) in the PM. Eastbound and westbound movements were free except for the left-turns which had to yield to oncoming traffic. EB and WB average delay for left-turns ranged from 7.6 sec (LOS A) to 7.9 sec (LOS A) throughout all scenarios. Northbound delays increased to 11.1 sec in the AM and 14.6 sec in the PM for the post-development scenario. Southbound delays increases to 9.7 sec in the AM and 12.5 sec in the PM for the post-development scenario. The longest 95th percentile queue length of any of the scenarios was 0.3 vehicle lengths.

Traffic Accident History

Traffic Accident History: No accident report were reviewed in the preparation of this study.

Internal Circulation and Parking

Proposed Site Access: The proposed Martway Mixed Use parking area would have two entranced drives coinciding with the existing entrances to the office buildings at 6009 and 6045 Martway. The entrances would be open without any security gating. The parking configuration would include head-in parking spaces around the outer perimeter with an inside tier of head-to-head parking spaces which would allow the service drive to loop around the central spaces and connect to both the east and west access driveway back to Martway Street. The proposed apartment building would be perched above supported by piers.

The proposed building would consist of 3,491 sqft of lower-floor general office space with 156 apartment units on the upper floors. Per the City of Mission's MS-2 Parking Regulations, Chapter 410.250, the proposed development would require the following number of parking spaces:

Parking Requirements

Building Use	Space Requirements	Parking Required
General Office	4 per 1000 sqft * 3,491 sqft	14 spaces
Apartments (156 Total Units)		
Studio Apartments (24 Units)	1 space per unit * 24 units	24 spaces
One Bedroom (92 Units)	1 space per unit * 92 units	92 spaces
Two Bedroom (40 Units)	2 spaces per unit * 40 units	80 spaces
		210 spaces

The proposed parking lot plan has a total of 166 spaces (including five ADA accessible spaces and one ADA van-accessible space), so the developer would need to lease an additional 44 off-site parking spaces to meet the City's total 210 space requirement for the proposed apartments and general office space. Superimposing the 100-year FEMA floodplain elevations from Rock Creek onto the proposed parking lot grading indicated that 40 spaces would be within the floodplain limits, however, no space would have more than the allowable 7 inches of water during the 100-year event.

Traffic Operations and Geometric Improvements

Driveways: The proposed west driveway entrance would be re-aligned to match Beverly Avenue and the proposed east driveway would remain close to its existing location. The east and west driveways are spaced approximately 300 ft apart and both entrances would be two-lane, full-access connections. Security gating would not be installed at either driveway entrance.

Right-Turn Lane for eastbound Martway Street at East or West Entrance Driveway: A review of KDOT's Access Management Policy indicated that neither driveway entrance would warrant the addition of a right-turn lane. The design speed for Martway Street coupled with the relatively low traffic volumes would not meet the minimum threshold levels on the KDOT Access Management Policy's Table 4-25, Right-Turn Treatment Guidelines for Two-Lane Highways.

Left-Turn Lane for westbound Martway Street at East or West Entrance Driveway: A review of KDOT's Access Management Policy indicated that neither driveway entrance would warrant the addition of a left-turn lane. The design speed for Martway Street coupled with the relatively low traffic volumes would not meet the minimum threshold levels on the KDOT Access Management Policy's Table 4-27, Recommended Left-Turn Lane Warrants for Two-Lane Highways.

Signalization: With the relatively low volume of traffic on Martway Street and the trips that would be generated from the proposed Martway Mixed Use development, signals are not warranted on Martway Street at either of the intersections with Beverly Avenue or with Dearborn Street.

Summary and Recommendations

Summary: This study addressed the street access and potential traffic congestion for the proposed Martway Mixed Use Development at 6045 Martway Street in Mission, Kansas. The site would call for the demolition of three existing single-story office buildings and replacing them with a multi-story apartment building perched above a ground-floor parking lot. The apartment building would have 156 units comprised of 24 studio, 92 single and 40 double bedroom apartments. The development would need a total of 210 spaces and the proposed below-building parking lot would provide 166 spaces, with the developer obtaining off-site parking agreements to make-up the additional 44 spaces required.

An assessment of the proposed trip generation traffic and the traffic volumes on Martway Street at the intersections with Beverly Avenue and with Dearborn Street indicated that no right or left-turn auxiliary lanes would be warranted for the proposed driveway entrances to the site. Level-of-service ratings at the intersections would remain at the LOS-A or B levels, and queued traffic would be kept at low levels.

Recommendations: The following recommendations are made for the Martway Mixed Use Development and the surrounding area:

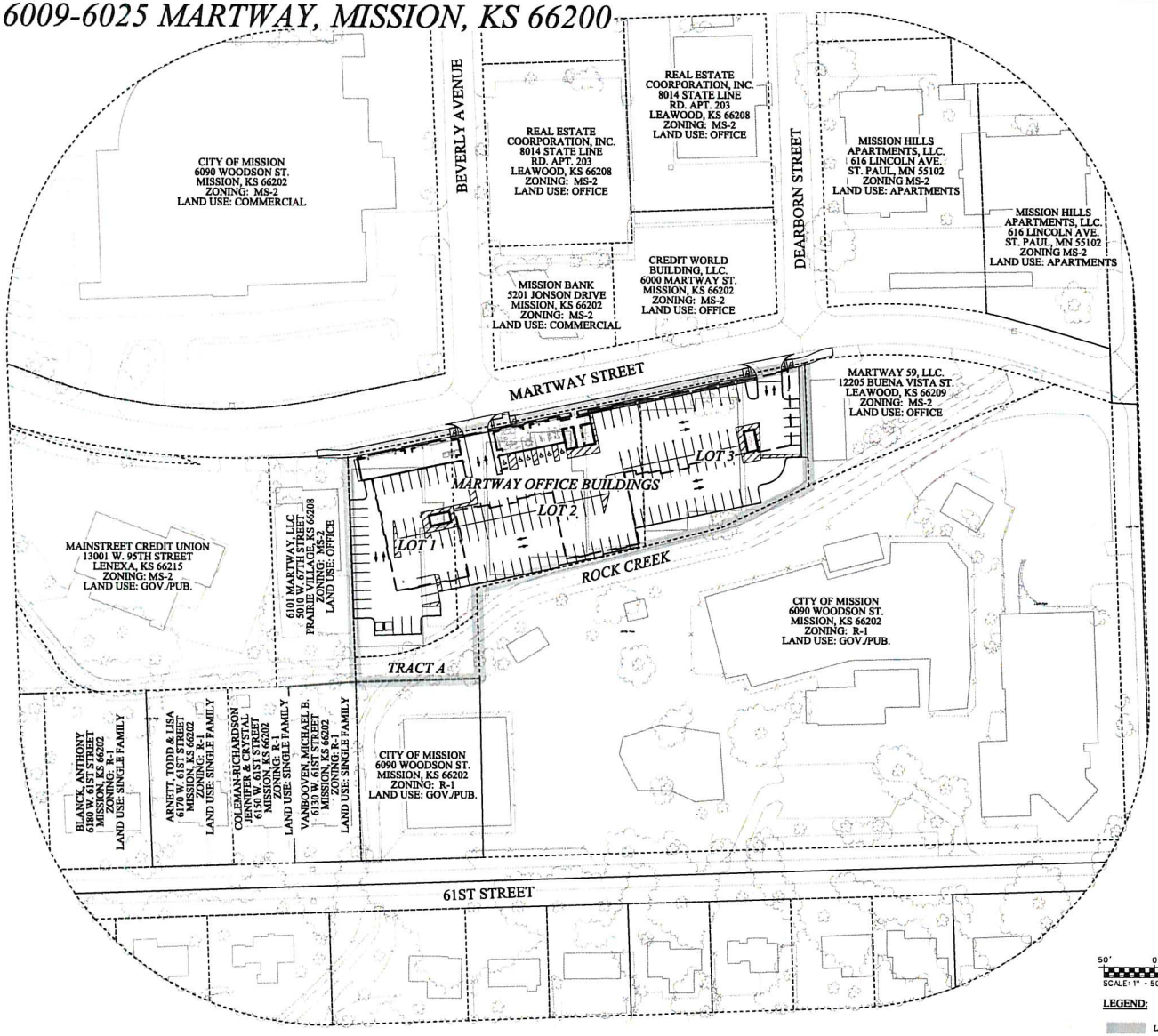
- The proposed west driveway entrance would be re-aligned to match Beverly Avenue and the east driveway entrance should remain at the present locations for the existing buildings at 6009 and 6045 Martway. Both driveways should be full-access entrances.
- The proposed development requires 210 parking spaces, and the proposed parking lot provides 166 spaces. The developer would need to lease an additional 44 off-site parking spaces to meet the City's total 210 space requirement.
- The existing Rock Creek walking trail running along the front side of the proposed building would remain unaltered by the development. During construction, the developer must make provisions to close the trail and divert pedestrian traffic to the northern side of Martway Street. The developer shall make all reasonable efforts to re-open the trail as quickly as possible once construction has been substantially completed and there would be no hazards to pedestrians.

Appendix I - Exhibit Maps (Site Plan, FEMA FIRM Map)

MARTWAY MIXED USE

PRELIMINARY DEVELOPMENT PLAN

6009-6025 MARTWAY, MISSION, KS 66200



PROJECT LOCATION

VICINITY MAP:

LEGAL DESCRIPTION

LOTS 1, 2 AND 3 OF MARTWAY OFFICE BUILDINGS A SUBDIVISION OF LAND IN THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 25 EAST OF THE SIXTH PRINCIPLE MERIDIAN IN THE CITY OF MISSION, JOHNSON COUNTY, KANSAS.

SITE DEVELOPMENT SUMMARY TABLE

EXISTING ZONING:

MS-2

LAND AREA:

1.767 ACRES OR 76,971 SQUARE FEET MORE OR LESS

LAND USE:

EXISTING:

OFFICE

PROPOSED:

A MIXED USE DEVELOPMENT WITH A 5-STORY APARTMENT COMPLEX WITH COMMERCIAL SPACE AND PARKING DECK ON THE FIRST FLOOR

BUILDING HEIGHT:

MAXIMUM BUILDING HEIGHT: 3-STORY/45'-0"
PROPOSED BUILDING HEIGHT: 5-STORY/67'-0"

BUILDING FLOOR AREA:

FIRST FLOOR:	3,491 S.F.
SECOND FLOOR:	38,977 S.F.
THIRD FLOOR:	38,977 S.F.
FOURTH FLOOR:	38,977 S.F.
FIFTH FLOOR:	38,977 S.F.
TOTAL FLOOR AREA	159,399 S.F.

FLOOR AREA RATIO

2.07

PARKING SUMMARY

PROPOSED PARKING RATIO: 0.79

PARKING SUMMARY TABLE

BUILDING USE	SPACES PER 1000 S.F. OR DWELLING UNIT	SPACES REQUIRED
COMMERCIAL SPACE	4 SPACES PER 1000 S.F. (3,491 S.F.)	14 SPACES
STUDIO APARTMENTS	SPACE PER UNIT (11 UNITS)	11 SPACES
ONE BEDROOM APARTMENTS	SPACE PER UNIT (133 UNITS)	133 SPACES
TWO BEDROOM APARTMENTS	SPACE PER UNIT (43 UNITS)	43 SPACES
	TOTAL SPACES REQUIRED	210 SPACES
	TOTAL SPACES PROVIDED	**166 SPACES

** 6 ACCESSIBLE SPACES WITH VAN SPACE HAS BEEN PROVIDED

OWNER:

MARTWAY OFFICE WORKS, LLC
423 DELAWARE STREET, STE. 102
KANSAS CITY, MO 64105

ARCHITECT:

CLOCKWORK
423 DELAWARE STREET STE. 102
KANSAS CITY, MO 64105

DEVELOPER:

MARTWAY OFFICE WORKS, LLC
423 DELAWARE STREET, STE. 102
KANSAS CITY, MO 64105

ENGINEER/LANDSCAPE ARCHITECT /SURVEYOR/PLANNER:

CFS ENGINEERS, P.A.
1421 E. 104TH STREET, SUITE 100
KANSAS CITY, MO 64131

REQUESTED DEVIATIONS

THE DEVELOPER REQUESTS THE FOLLOWING DEVIATIONS TO THE CITY OF MISSION'S MUNICIPAL CODE:

1. THE ONSITE PARKING SPACE REQUIREMENT BE REDUCED FROM 210 SPACES TO 166 SPACES AS LONG AS THE ADDITIONAL 44 SPACES ARE OBTAINED IN AN OFF-SITE PARKING AGREEMENT.
2. THE REAR YARD SETBACK REQUIREMENT BE REDUCED FROM 25' TO A 0' SETBACK.
3. THE MAXIMUM BUILDING HEIGHT REQUIREMENT BE RAISED FROM A 3-STORY 45 FOOT TO A 5-STORY 67 FOOT MAXIMUM BUILDING HEIGHT.
4. THE MINIMUM LOT AREA PER MULTI-FAMILY DWELLING BE RAISED FROM 35 UNITS PER ACRE TO 88.64 UNITS PER ACRE.
5. THE PARKING LOT SETBACK BE REDUCED FROM 6' TO 0'.
6. THE MINIMUM GREEN SPACE BUFFER BETWEEN PARKING AND INTERIOR LOT LINES BE REDUCED FROM 4' TO 0'.
7. THE INTERIOR PARKING LOT TREE REQUIREMENTS.
8. THE PARKING LOT INTERIOR OPEN SPACE REQUIREMENT.

N

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

LEGEND:

LIMITS OF DEVELOPMENT

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste 100 KCMO 64131
o 816-333-4477 f 816-333-6688

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

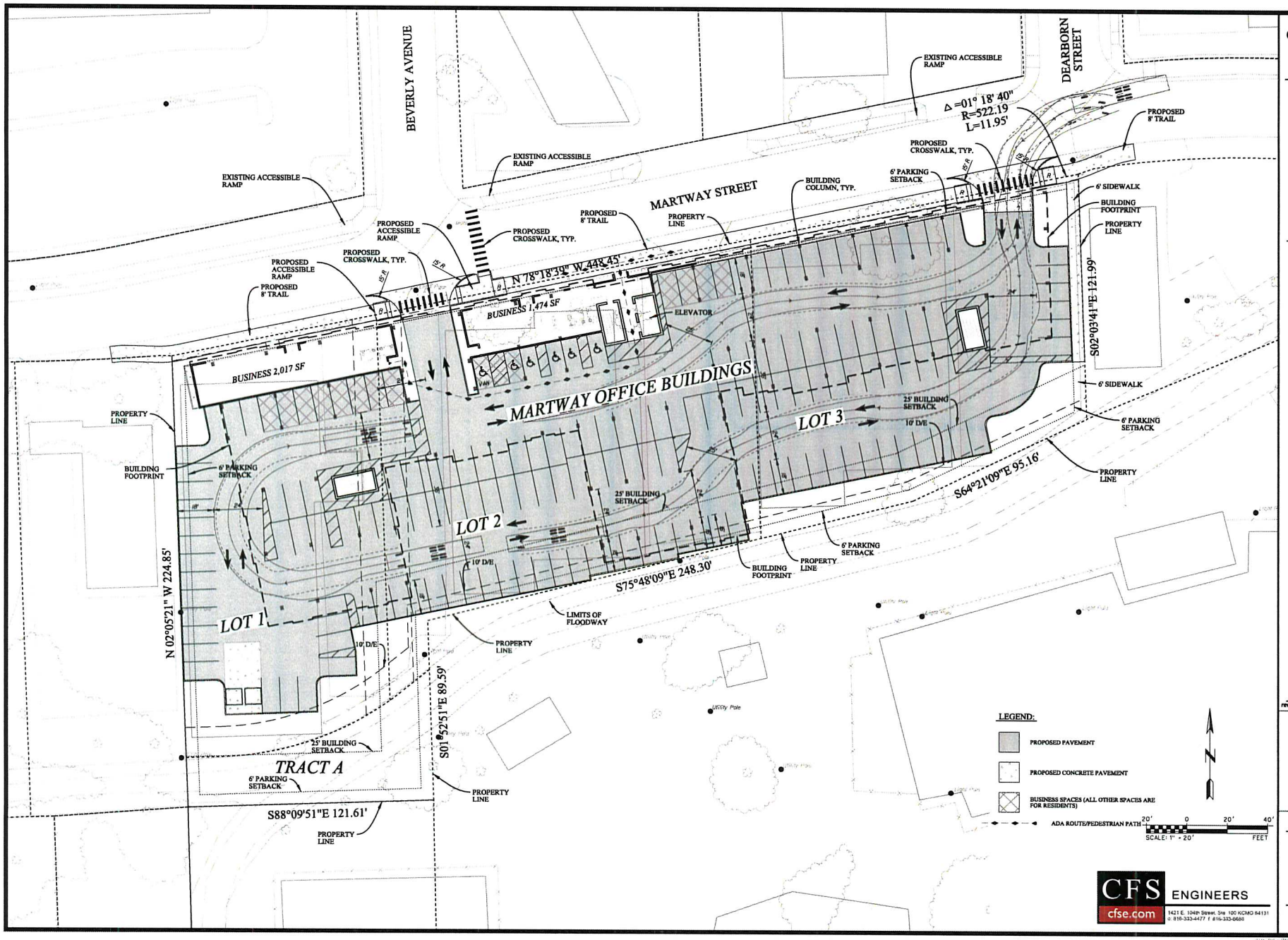
Martway Mixed Use
6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.13.2017

16.05.Martway

C100

OVERALL SITE PLAN



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LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

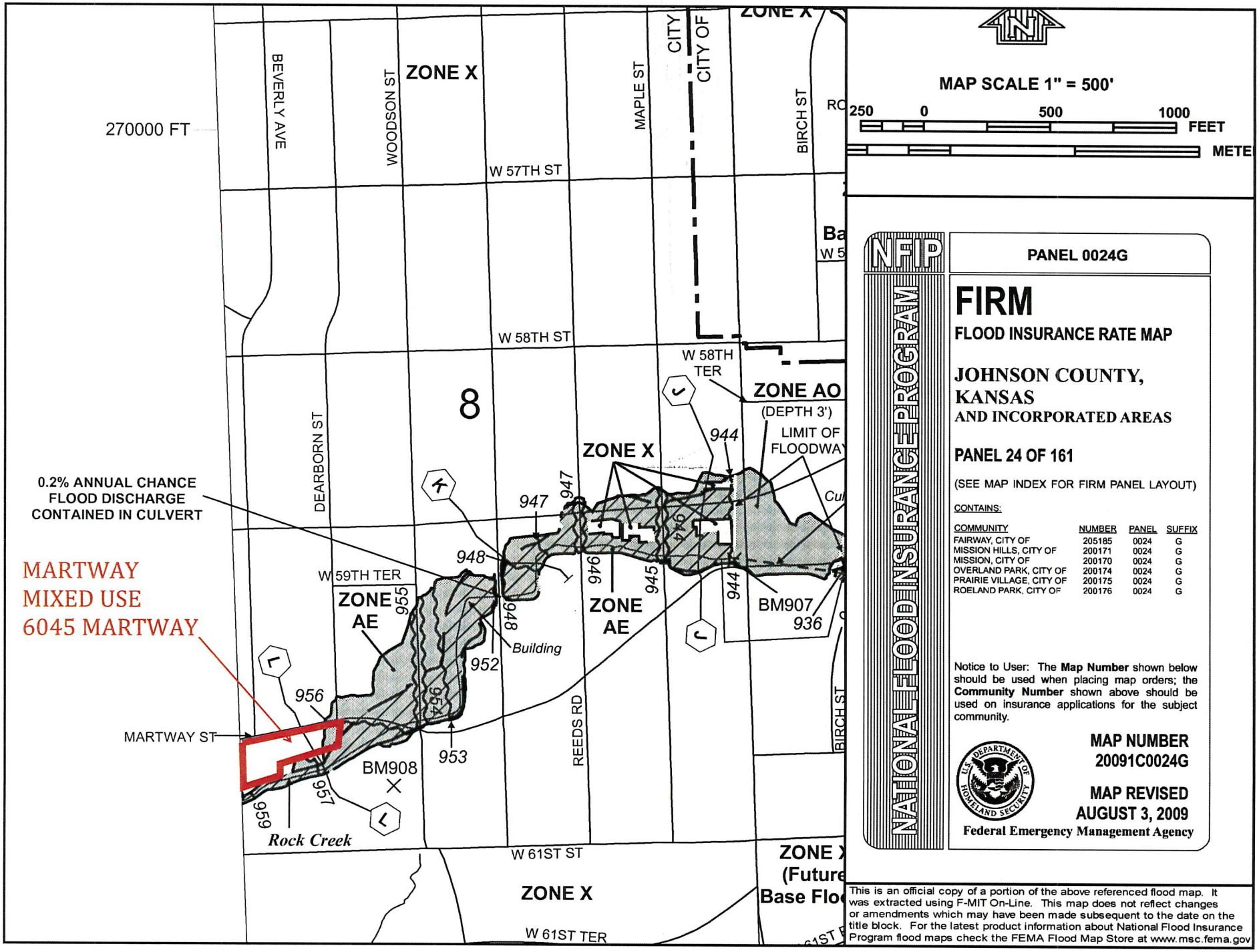
rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017

16.05.Martway

C101

SITE PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste 100 KCMO 64131
o 816-333-4477 f 816-333-6688


270000 FT
BEVERLY AVE
WOODSON ST
ZONE X
W 57TH ST
MAPLE ST
CITY
CITY OF
BIRCH ST
W 58TH ST
W 58TH TER
ZONE AO
(DEPTH 3')
LIMIT OF
FLOODWA
8
DEARBORN ST
ZONE X
944
947
948
946
945
0.2% ANNUAL CHANCE
FLOOD DISCHARGE
CONTAINED IN CULVERT
MARTWAY
MIXED USE
6045 MARTWAY
W 59TH TER
ZONE
AE
955
948
952
Building
ZONE
AE
BM907
936
956
MARTWAY ST
954
953
REEDS RD
BM908
957
959
Rock Creek
W 61ST ST
ZONE X
W 61ST TER
BIRCH ST
MAP SCALE 1" = 500'
250 0 500 1000
FEET
METE
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0024G
FIRM
FLOOD INSURANCE RATE MAP
JOHNSON COUNTY,
KANSAS
AND INCORPORATED AREAS
PANEL 24 OF 161
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
FAIRWAY, CITY OF 205185 0024 G
MISSION HILLS, CITY OF 200171 0024 G
MISSION, CITY OF 200170 0024 G
OVERLAND PARK, CITY OF 200174 0024 G
PRAIRIE VILLAGE, CITY OF 200175 0024 G
ROELAND PARK, CITY OF 200176 0024 G
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
20091C0024G
MAP REVISED
AUGUST 3, 2009
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Kansas State Plane North Zone (FIPS zone 1501). The **horizontal datum** was NAD 83, GRS 80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information about **the bench marks** shown on this map, please contact the Automated Information Mapping System (AIMS) at **(913) 715 -1600**, or visit their website at http://aims.jocogov.org/.

Base map information shown on this FIRM was provided for Johnson County by Analytical Surveys, Inc. The vector data was derived from Aerial Photography, dated 1998-2000 and captured at a resolution of 5 feet.

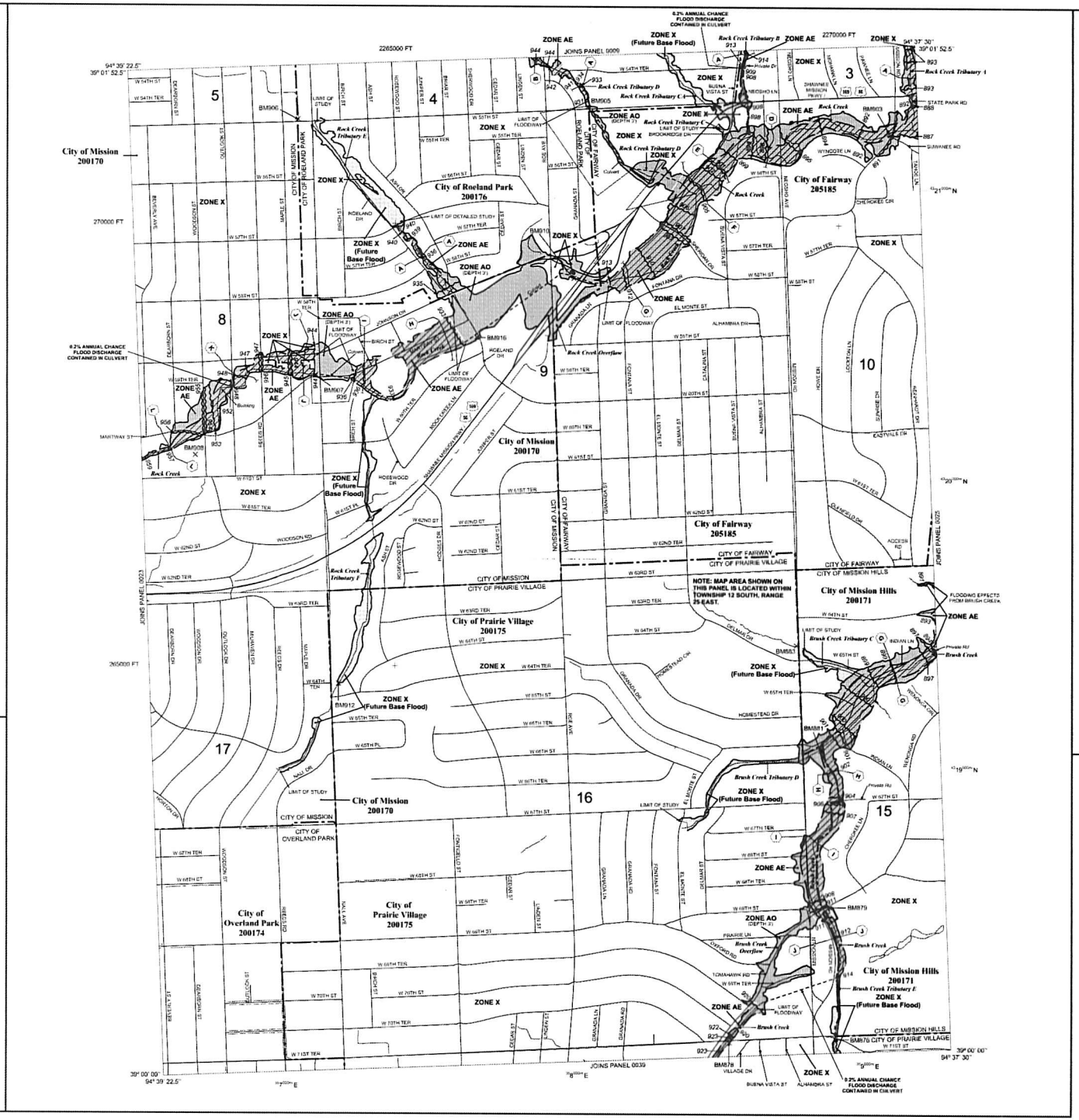
This map reflects more detailed up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **ZONE X (Future Base Flood)** — Areas of 1% annual chance flood based on future conditions hydrology. No Base Flood Elevations determined.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 4968000mN — 1000-meter Universal Transverse Mercator grid values, zone 15
- 5000000mN — 1000-meter Universal Transverse Mercator grid values, zone 15
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- • M1.5 — River Mile

MAP REPOSITORY
Refer to listing of map repositories on map index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 27, 1991

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
OCTOBER 16, 1995
JULY 17, 1992
JUNE 17, 2002

August 3, 2009 - to change the Base Flood Elevations, Special Flood Hazard Areas, floodway and zone designations, to add Base Flood Elevations, Special Flood Hazard Areas, floodway, roads and road names to reflect updated topographic information, to incorporate previously issued Letters of Map Revision and to update corporate limits.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0024G

FIRM

FLOOD INSURANCE RATE MAP

JOHNSON COUNTY, KANSAS AND INCORPORATED AREAS

PANEL 24 OF 161

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRWAY, CITY OF	205185	0024	G
MISSION HILLS, CITY OF	200171	0024	G
MISSION, CITY OF	200170	0024	G
OVERLAND PARK, CITY OF	200174	0024	G
PRAIRIE VILLAGE, CITY OF	200175	0024	G
ROELAND PARK, CITY OF	200176	0024	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
20091C0024G

MAP REVISED
AUGUST 3, 2009

Federal Emergency Management Agency

Appendix II – Traffic Counts

Martway St, Mission, Kansas - 2017 Traffic Counts

Wed 6-14-2017	Martway St & Beverly Ave Turning Movement Counts												
Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total Sum
7:00 AM	3	17	1	0	20	1	0	0	0	4	1	0	47
7:15 AM	7	20	0	1	24	3	0	0	0	2	0	6	63
7:30 AM	10	34	2	0	30	9	0	0	0	4	0	15	104
7:45 AM	12	46	0	0	38	13	0	0	0	3	0	6	118
8:00 AM	15	37	0	0	23	5	0	0	0	8	0	11	99
8:15 AM	16	37	1	2	31	11	0	0	0	5	0	7	110
8:30 AM	13	40	1	1	32	6	1	0	1	3	0	17	115
8:45 AM	5	30	0	1	24	7	0	0	1	2	1	17	88
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
0.94	56	160	2	3	124	35	1	0	1	19	0	41	
Max													118
Hourly Sum	32	117	3	1	112	26	0	0	0	13	1	27	332
Hourly Sum	44	137	2	1	115	30	0	0	0	17	0	38	384
Hourly Sum	53	154	3	2	122	38	0	0	0	20	0	39	431
Hourly Sum	56	160	2	3	124	35	1	0	1	19	0	41	442
Hourly Sum	49	144	2	4	110	29	1	0	2	18	1	52	412

Wed 6-14-2017	Martway St & Beverly Ave Turning Movement Counts												
Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total Sum
4:00 PM	2	50	2	0	59	5	3	0	3	4	0	15	143
4:15 PM	9	37	0	0	45	8	0	0	1	5	0	14	119
4:30 PM	8	70	0	0	62	7	1	0	0	7	0	15	170
4:45 PM	9	61	0	0	70	9	0	0	0	10	0	16	175
5:00 PM	8	58	0	0	67	9	0	0	2	10	0	25	179
5:15 PM	11	64	0	0	75	11	0	0	1	15	0	20	197
5:30 PM	4	59	0	0	72	4	1	0	0	6	0	13	159
5:45 PM	4	68	0	0	45	9	0	0	1	5	0	8	140
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
0.91	36	253	0	0	274	36	1	0	3	42	0	76	
Max													197
Hourly Sum	28	218	2	0	236	29	4	0	4	26	0	60	607
Hourly Sum	34	226	0	0	244	33	1	0	3	32	0	70	643
Hourly Sum	36	253	0	0	274	36	1	0	3	42	0	76	721
Hourly Sum	32	242	0	0	284	33	1	0	3	41	0	74	710
Hourly Sum	27	249	0	0	259	33	1	0	4	36	0	66	675

Thur 6-15-2017	Martway St & Dearborn St Turning Movement Counts												
Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total Sum
7:00 AM	2	15	2	0	23	0	0	0	0	0	0	2	44
7:15 AM	3	22	0	0	32	0	0	0	0	1	0	3	61
7:30 AM	4	19	0	0	34	0	0	0	0	1	0	7	65
7:45 AM	5	25	3	0	47	1	0	0	0	2	0	7	90
8:00 AM	4	38	2	1	32	1	1	0	1	1	1	7	89
8:15 AM	5	34	1	2	26	2	0	0	0	0	0	5	75
8:30 AM	2	34	1	0	32	1	0	0	0	2	0	5	77
8:45 AM	8	30	0	0	31	3	0	0	0	1	0	4	77
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
0.92	16	131	7	3	137	5	1	0	1	5	1	24	
Max													90
Hourly Sum	14	81	5	0	136	1	0	0	0	4	0	19	260
Hourly Sum	16	104	5	1	145	2	1	0	1	5	1	24	305
Hourly Sum	18	116	6	3	139	4	1	0	1	4	1	26	319
Hourly Sum	16	131	7	3	137	5	1	0	1	5	1	24	331
Hourly Sum	19	136	4	3	121	7	1	0	1	4	1	21	318

Thur 6-15-2017	Martway St & Dearborn St Turning Movement Counts												
Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total Sum
4:00 PM	3	46	0	0	53	2	3	0	1	2	0	4	114
4:15 PM	5	63	1	0	49	2	0	0	1	0	0	3	124
4:30 PM	1	56	0	0	61	3	0	0	0	2	0	9	132
4:45 PM	6	72	0	0	58	2	1	0	1	2	0	7	149
5:00 PM	3	70	0	0	67	4	1	0	0	4	0	9	158
5:15 PM	8	72	0	1	67	6	4	0	1	3	0	3	165
5:30 PM	15	54	0	0	52	4	0	0	1	3	0	7	136
5:45 PM	14	50	0	0	61	1	3	0	0	1	0	5	135
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
0.92	32	268	0	1	244	16	6	0	3	12	0	26	
Max													165
Hourly Sum	15	237	1	0	221	9	4	0	3	6	0	23	519
Hourly Sum	15	261	1	0	235	11	2	0	2	8	0	28	563
Hourly Sum	18	270	0	1	253	15	6	0	2	11	0	28	604
Hourly Sum	32	268	0	1	244	16	6	0	3	12	0	26	608
Hourly Sum	40	246	0	1	247	15	8	0	2	11	0	24	594

Wed 6-14-2017	Martway St & Beverly Ave Turning Movement Counts											
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.94	56	160	2	3	124	35	1	0	1	19	0	41

Wed 6-14-2017	Martway St & Beverly Ave Turning Movement Counts											
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.91	36	253	0	0	274	36	1	0	3	42	0	76

Thur 6-15-2017	Martway St & Dearborn St Turning Movement Counts											
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.92	16	131	7	3	137	5	1	0	1	5	1	24

Thur 6-15-2017	Martway St & Dearborn St Turning Movement Counts											
PHF	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0.92	32	268	0	1	244	16	6	0	3	12	0	26

Appendix III – Trip Generation & Traffic Distribution

Trip Generation Calculation - Weekday Peak AM and PM Hour

Martway Mixed-Use - 6045 Martway, Mission, Kansas

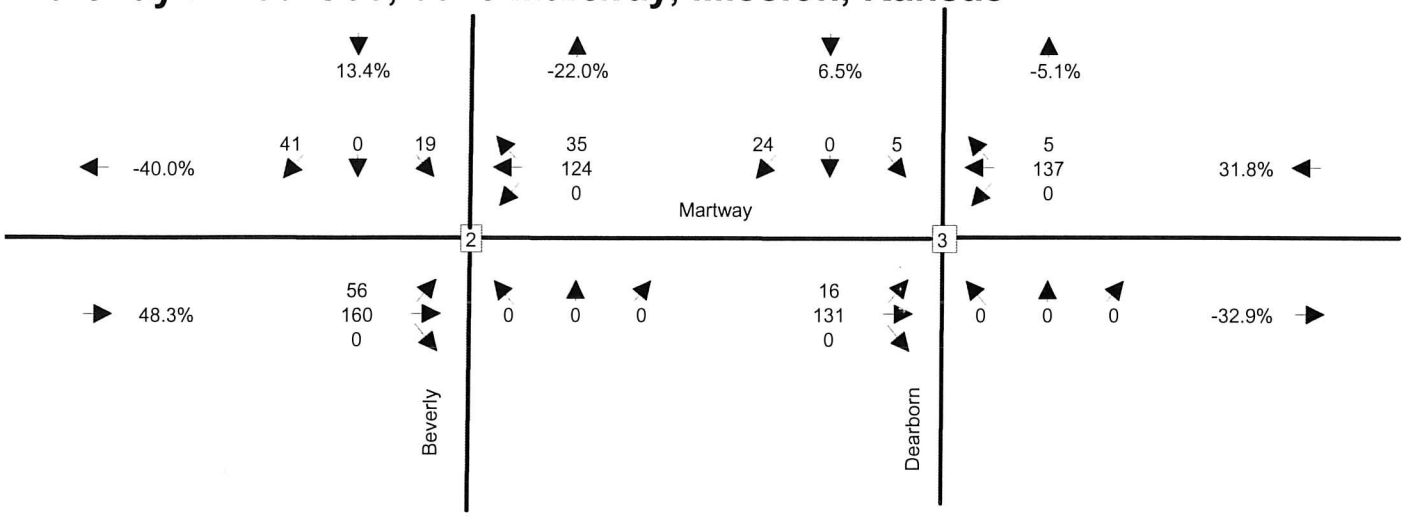
Cook Flatt and Strobel, Engineers
CFS Project No. 17-5085
Date: 09/13/17

Land Use	ITE Land Use Code	Square Footage or Unit Quantity	Total Daily Traffic	Pass-By Traffic Percent	AM Peak Hour (7-9 AM)											PM Peak Hour (4-6 PM)											Notes
					Total 2-Way PHV	New-Gen 2-Way PHV	Pass-By 2-Way PVH	Enter %	Total Enter PHV	New-Gen Enter PHV	Pass-By Enter PVH	Exit %	Total Exit PHV	New-Gen Exit PHV	Pass-By Exit PVH	Total 2-Way PHV	New-Gen 2-Way PHV	Pass-By 2-Way PVH	Enter %	Total Enter PHV	New-Gen Enter PHV	Pass-By Enter PVH	Exit %	Total Exit PHV	New-Gen Exit PHV	Pass-By Exit PVH	
Pre-Development Conditions																											
General Office (KSF)	710	34.465	1527	0%	54	54	0	88%	48	48	0	12%	6	6	0	51	51	0	17%	9	9	0	83%	42	42	0	
Total						54				48				6			51				9				42		
Post-Development Conditions																											
Apartments (Dwelling Units) (Equations)	220	156	1069	0%	87	87	0	29%	25	25	0	71%	62	62	0	109	109	0	61%	66	66	0	39%	43	43	0	
General Office (KSF)	710	3.491		0%	5	5	0	88%	4	4	0	12%	1	1	0	5	5	0	17%	1	1	0	83%	4	4	0	
Total			1069			92				29				63			114				67				47		

Notes:
ITE 9th Edition Trip Generation

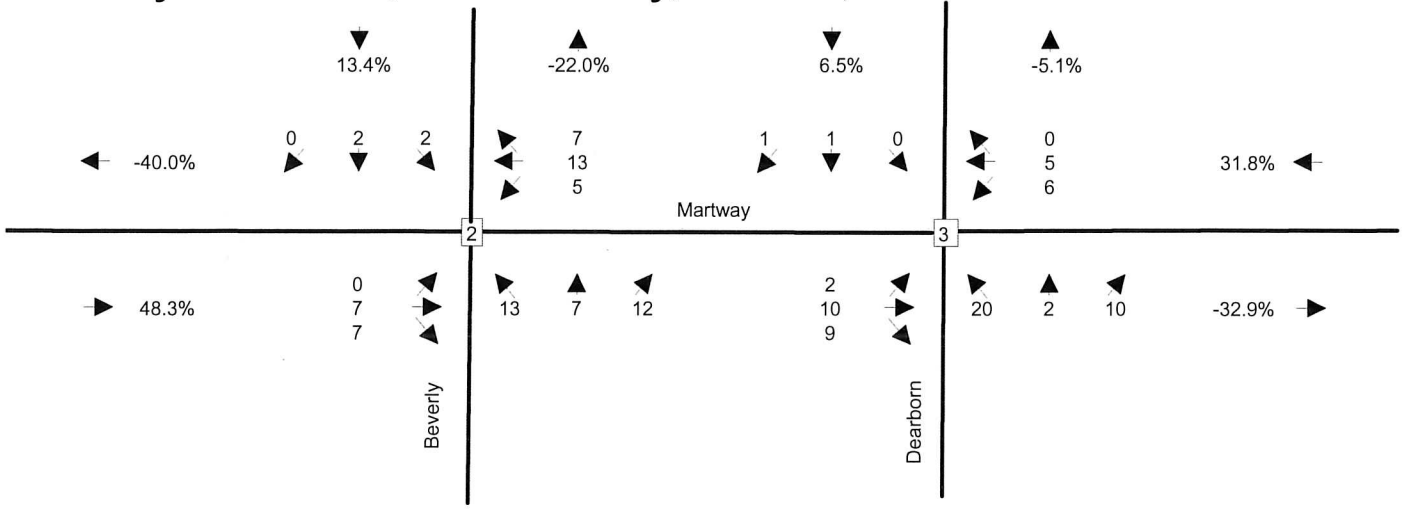
AM Peak Hour Existing Traffic

Martway Mixed-Use, 6045 Martway, Mission, Kansas



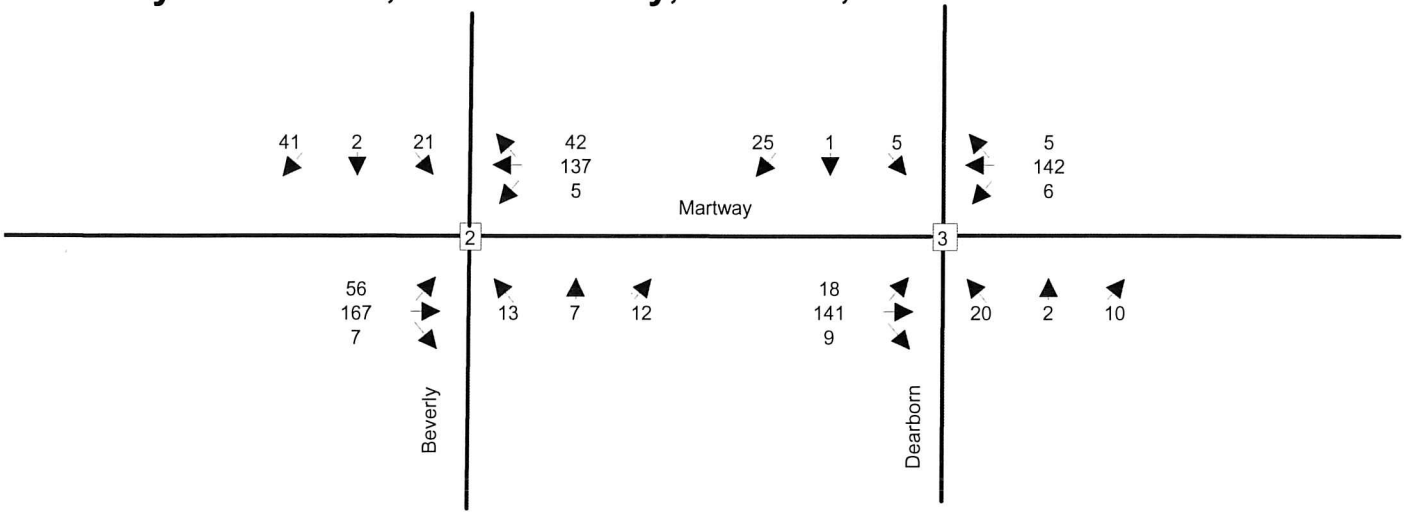
AM Peak Hour Site-Generated Traffic

Martway Mixed-Use, 6045 Martway, Mission, Kansas



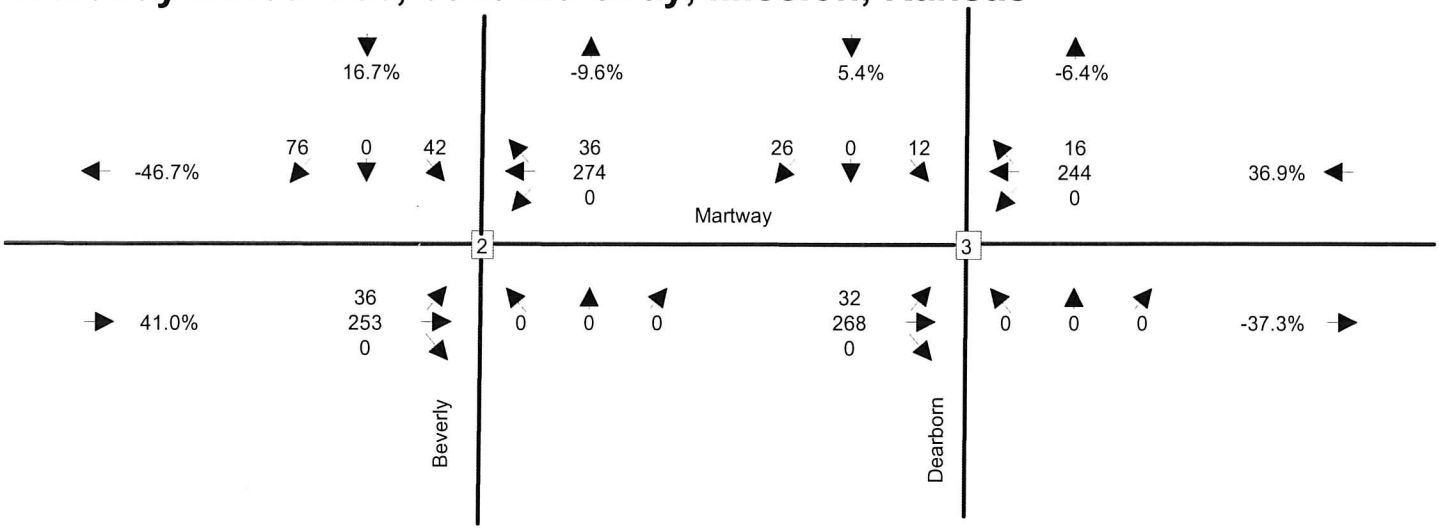
AM Peak Hour Existing Plus Site-Generated Traffic

Martway Mixed-Use, 6045 Martway, Mission, Kansas



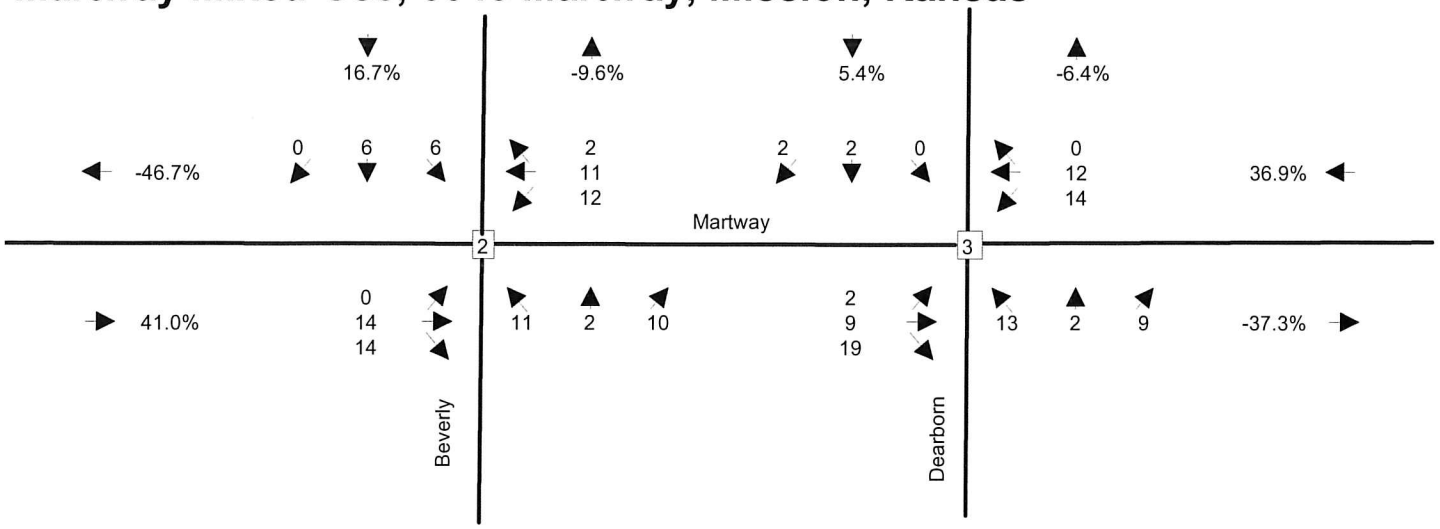
PM Peak Hour Existing Traffic

Martway Mixed-Use, 6045 Martway, Mission, Kansas



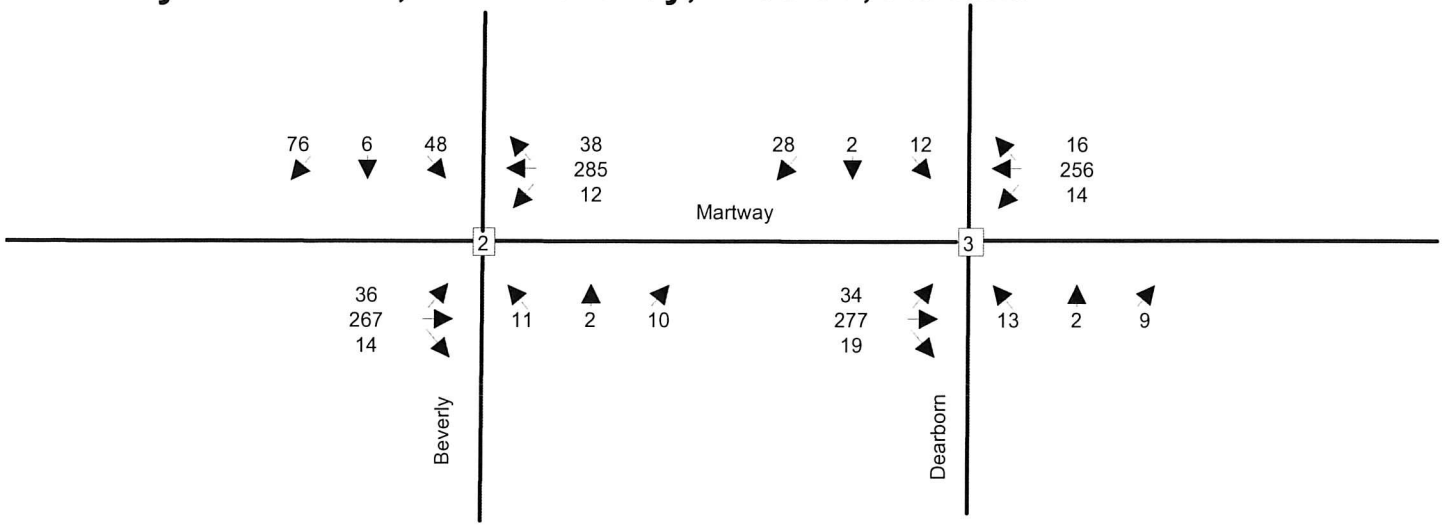
PM Peak Hour Site-Generated Traffic

Martway Mixed-Use, 6045 Martway, Mission, Kansas



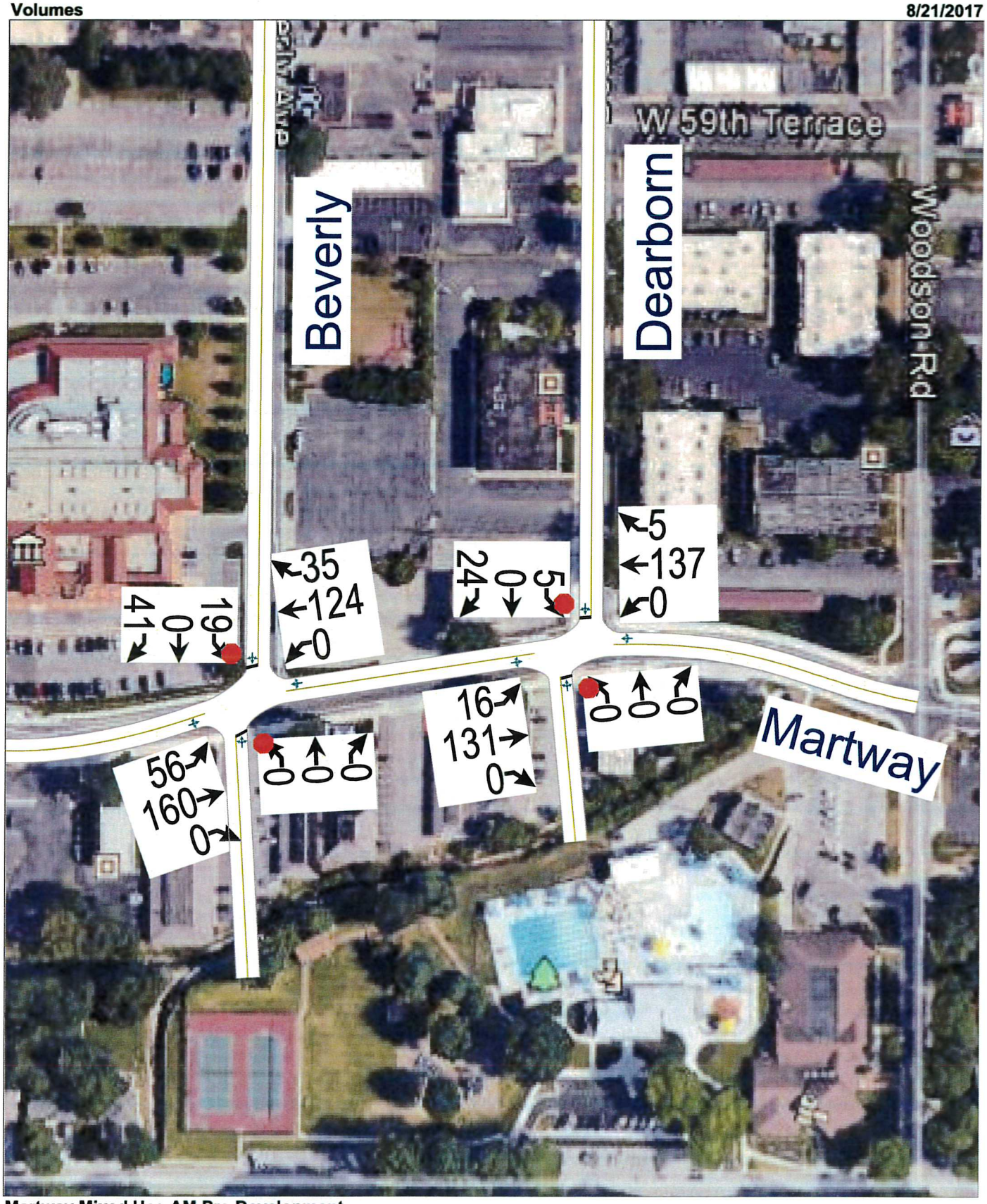
PM Peak Hour Existing Plus Site-Generated Traffic

Martway Mixed-Use, 6045 Martway, Mission, Kansas



Appendix-IV - Synchro Results, AM Peak Traffic Conditions / Pre-Development

Map - Martway Mixed Use-AM Pre-Development
Volumes **8/21/2017**



Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	56	160	0	0	124	35	0	0	0	19	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	174	0	0	135	38	0	0	0	21	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	173	0	0	174	0	0	472	469	174	450	450	154
Stage 1	-	-	-	-	-	-	296	296	-	154	154	-
Stage 2	-	-	-	-	-	-	176	173	-	296	296	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1404	-	-	1403	-	-	502	492	869	519	504	892
Stage 1	-	-	-	-	-	-	712	668	-	848	770	-
Stage 2	-	-	-	-	-	-	826	756	-	712	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1404	-	-	1403	-	-	459	468	869	500	480	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	459	468	-	500	480	-
Stage 1	-	-	-	-	-	-	678	636	-	807	770	-
Stage 2	-	-	-	-	-	-	785	756	-	678	636	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	0	10.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1404	-	-	1403	-	-	715
HCM Lane V/C Ratio	-	0.043	-	-	-	-	-	0.091
HCM Control Delay (s)	0	7.7	0	-	0	-	-	10.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	16	131	0	0	137	5	0	0	0	5	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	142	0	0	149	5	0	0	0	5	0	26

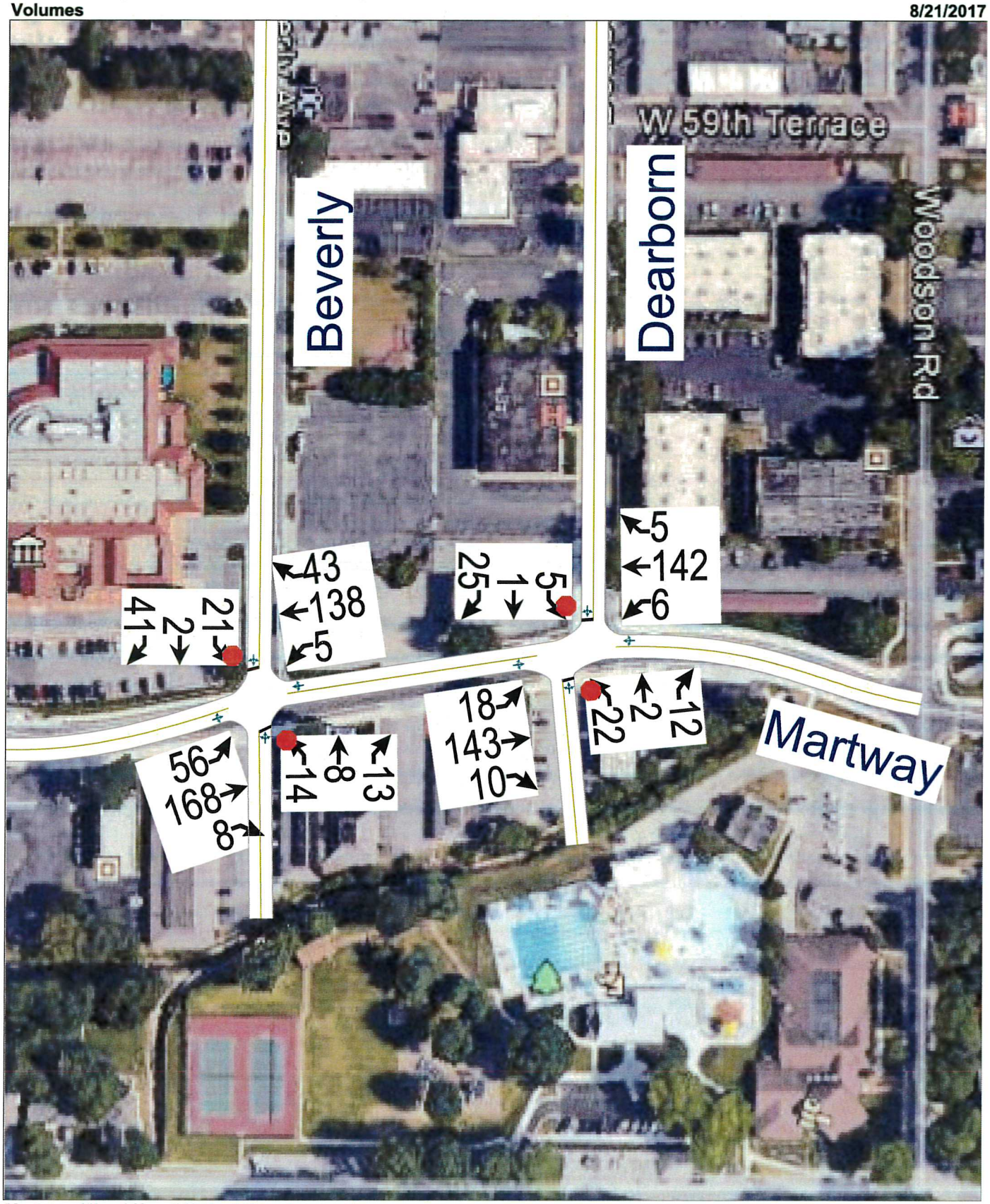
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	154	0	0	142	0	0	342	331	142	329	329	152
Stage 1	-	-	-	-	-	-	177	177	-	152	152	-
Stage 2	-	-	-	-	-	-	165	154	-	177	177	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1426	-	-	1441	-	-	612	588	906	624	590	894
Stage 1	-	-	-	-	-	-	825	753	-	850	772	-
Stage 2	-	-	-	-	-	-	837	770	-	825	753	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1441	-	-	588	580	906	618	582	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	588	580	-	618	582	-
Stage 1	-	-	-	-	-	-	814	743	-	839	772	-
Stage 2	-	-	-	-	-	-	813	770	-	814	743	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	0	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1426	-	-	1441	-	-	830
HCM Lane V/C Ratio	-	0.012	-	-	-	-	-	0.038
HCM Control Delay (s)	0	7.6	0	-	0	-	-	9.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Appendix V - Synchro Results, AM Peak Traffic Conditions / Post-Development

Map - Martway Mixed Use-AM Post-Development
Volumes **8/21/2017**



Martway Mixed Use-AM Post-Development
C:\Users\Traffic User\Desktop\175085 - Martway\Synchro\Martway AM Post.syn

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	56	168	8	5	138	43	14	8	13	21	2	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	183	9	5	150	47	15	9	14	23	2	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	197	0	0	191	0	0	517	517	187	504	497	173
Stage 1	-	-	-	-	-	-	309	309	-	184	184	-
Stage 2	-	-	-	-	-	-	208	208	-	320	313	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1376	-	-	1383	-	-	469	462	855	478	475	871
Stage 1	-	-	-	-	-	-	701	660	-	818	747	-
Stage 2	-	-	-	-	-	-	794	730	-	692	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1376	-	-	1383	-	-	425	437	855	444	449	871
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	437	-	444	449	-
Stage 1	-	-	-	-	-	-	666	627	-	777	744	-
Stage 2	-	-	-	-	-	-	748	727	-	638	624	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.2	12.4	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	527	1376	-	-	1383	-	-	648
HCM Lane V/C Ratio	0.072	0.044	-	-	0.004	-	-	0.107
HCM Control Delay (s)	12.4	7.7	0	-	7.6	0	-	11.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	143	10	6	142	5	22	2	12	5	1	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	155	11	7	154	5	24	2	13	5	1	27

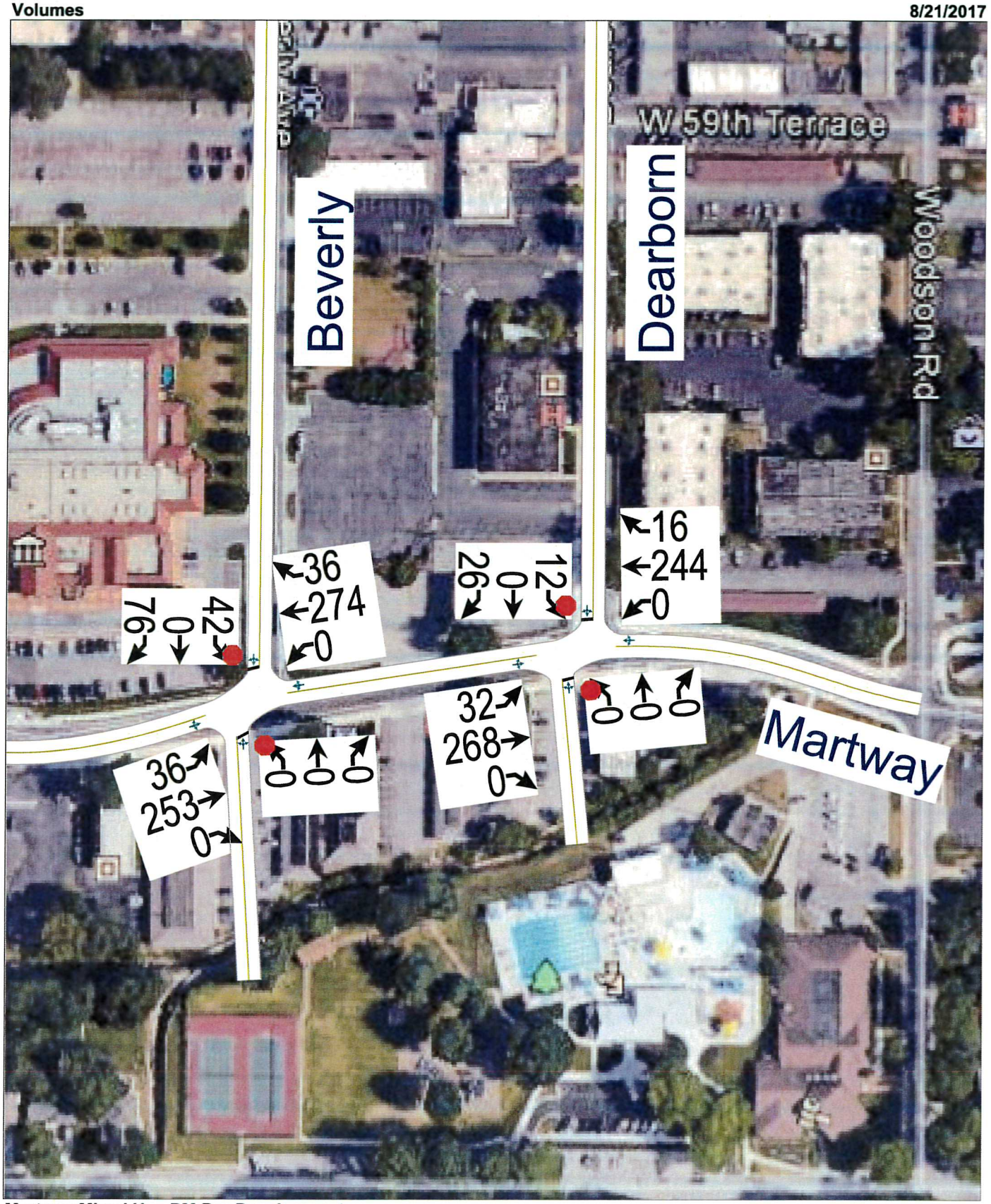
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	160	0	0	166	0	0	384	373	161	378	375	157
Stage 1	-	-	-	-	-	-	200	200	-	170	170	-
Stage 2	-	-	-	-	-	-	184	173	-	208	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1419	-	-	1412	-	-	574	557	884	580	556	889
Stage 1	-	-	-	-	-	-	802	736	-	832	758	-
Stage 2	-	-	-	-	-	-	818	756	-	794	732	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1419	-	-	1412	-	-	547	545	884	561	544	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	547	545	-	561	544	-
Stage 1	-	-	-	-	-	-	789	724	-	819	754	-
Stage 2	-	-	-	-	-	-	788	752	-	767	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.3	11.1	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	626	1419	-	-	1412	-	-	797
HCM Lane V/C Ratio	0.063	0.014	-	-	0.005	-	-	0.042
HCM Control Delay (s)	11.1	7.6	0	-	7.6	0	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Appendix VI - Synchro Results, PM Peak Traffic Conditions / Pre-Development

Map - Martway Mixed Use-PM Pre-Development
Volumes **8/21/2017**



Martway Mixed Use-PM Pre-Development
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Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	36	253	0	0	274	36	0	0	0	42	0	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	275	0	0	298	39	0	0	0	46	0	83

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	337	0	0	275	0	0	712	690	275	670	670	317
Stage 1	-	-	-	-	-	-	353	353	-	317	317	-
Stage 2	-	-	-	-	-	-	359	337	-	353	353	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1222	-	-	1288	-	-	347	368	764	371	378	724
Stage 1	-	-	-	-	-	-	664	631	-	694	654	-
Stage 2	-	-	-	-	-	-	659	641	-	664	631	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1222	-	-	1288	-	-	298	354	764	360	364	724
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	354	-	360	364	-
Stage 1	-	-	-	-	-	-	639	607	-	668	654	-
Stage 2	-	-	-	-	-	-	584	641	-	639	607	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0	0	13.9
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1222	-	-	1288	-	-	532
HCM Lane V/C Ratio	-	0.032	-	-	-	-	-	0.241
HCM Control Delay (s)	0	8	0	-	0	-	-	13.9
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.9

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	32	268	0	0	244	16	0	0	0	12	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	291	0	0	265	17	0	0	0	13	0	28

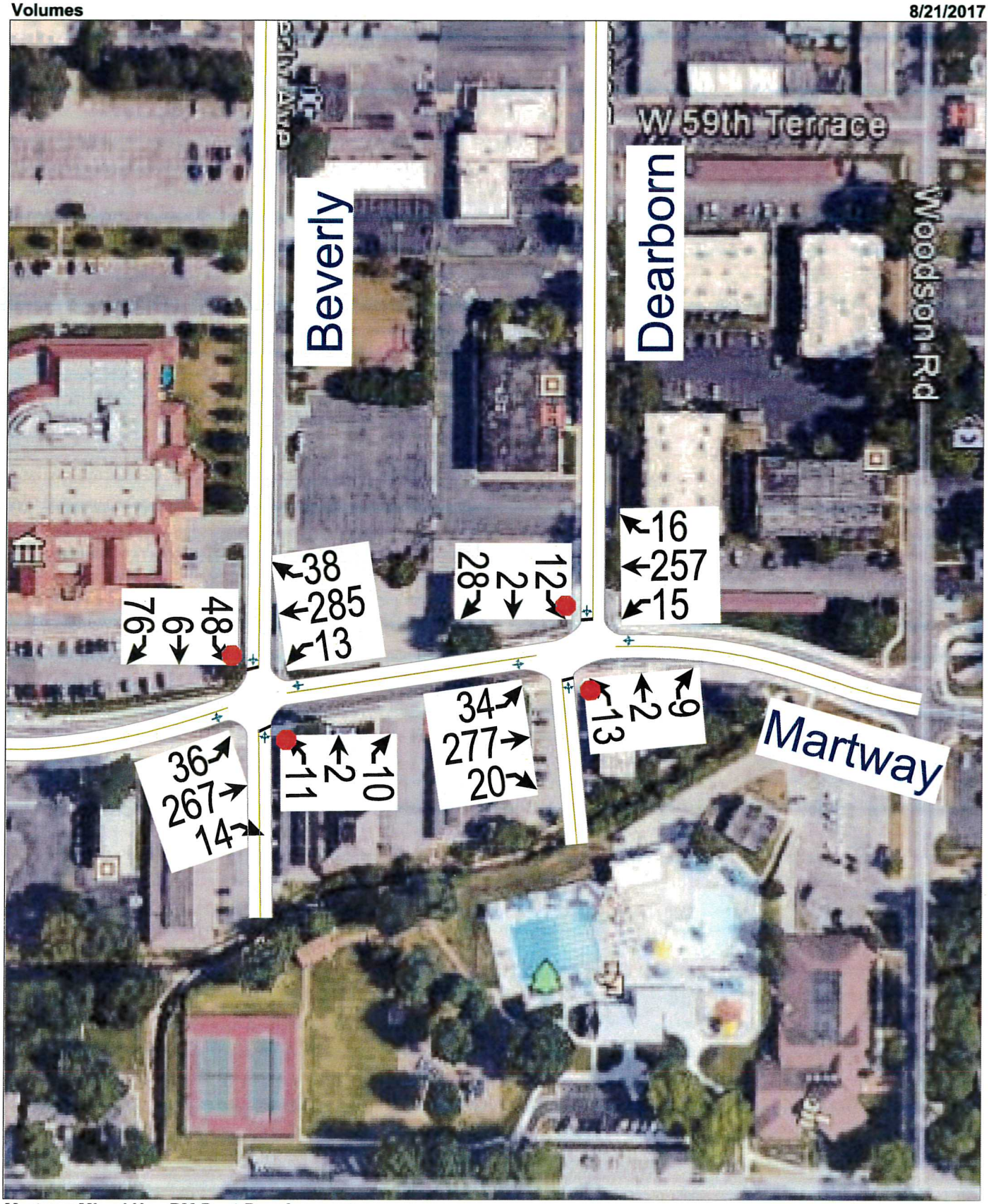
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	283	0	0	291	0	0	649	644	291	635	635	274
Stage 1	-	-	-	-	-	-	361	361	-	274	274	-
Stage 2	-	-	-	-	-	-	288	283	-	361	361	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1279	-	-	1271	-	-	383	391	748	391	396	765
Stage 1	-	-	-	-	-	-	657	626	-	732	683	-
Stage 2	-	-	-	-	-	-	720	677	-	657	626	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1279	-	-	1271	-	-	360	378	748	381	383	765
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	378	-	381	383	-
Stage 1	-	-	-	-	-	-	635	605	-	708	683	-
Stage 2	-	-	-	-	-	-	693	677	-	635	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	0	11.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1279	-	-	1271	-	-	580
HCM Lane V/C Ratio	-	0.027	-	-	-	-	-	0.071
HCM Control Delay (s)	0	7.9	0	-	0	-	-	11.7
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.2

Appendix VII - Synchro Results, PM Peak Traffic Conditions / Post-Development

Map - Martway Mixed Use-PM Post-Development
Volumes **8/21/2017**



Martway Mixed Use-PM Post-Development
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Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	36	267	14	13	285	38	11	2	10	48	6	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	290	15	14	310	41	12	2	11	52	7	83

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	351	0	0	305	0	0	779	755	298	742	743	330
Stage 1	-	-	-	-	-	-	376	376	-	359	359	-
Stage 2	-	-	-	-	-	-	403	379	-	383	384	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1208	-	-	1256	-	-	313	338	741	332	343	712
Stage 1	-	-	-	-	-	-	645	616	-	659	627	-
Stage 2	-	-	-	-	-	-	624	615	-	640	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1208	-	-	1256	-	-	262	320	741	312	325	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	262	320	-	312	325	-
Stage 1	-	-	-	-	-	-	620	592	-	633	618	-
Stage 2	-	-	-	-	-	-	538	606	-	604	587	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	15.3	16.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	373	1208	-	-	1256	-	-	466
HCM Lane V/C Ratio	0.067	0.032	-	-	0.011	-	-	0.303
HCM Control Delay (s)	15.3	8.1	0	-	7.9	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	34	277	20	15	257	16	13	2	9	12	2	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	301	22	16	279	17	14	2	10	13	2	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	297	0	0	323	0	0	723	715	312	713	718	288
Stage 1	-	-	-	-	-	-	386	386	-	321	321	-
Stage 2	-	-	-	-	-	-	337	329	-	392	397	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1264	-	-	1237	-	-	342	356	728	347	355	751
Stage 1	-	-	-	-	-	-	637	610	-	691	652	-
Stage 2	-	-	-	-	-	-	677	646	-	633	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1264	-	-	1237	-	-	314	338	728	327	337	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	338	-	327	337	-
Stage 1	-	-	-	-	-	-	614	588	-	666	642	-
Stage 2	-	-	-	-	-	-	637	636	-	600	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.4	14.6	12.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	402	1264	-	-	1237	-	-	526
HCM Lane V/C Ratio	0.065	0.029	-	-	0.013	-	-	0.087
HCM Control Delay (s)	14.6	7.9	0	-	7.9	0	-	12.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3

DATE: September 13th, 2017
RE: Martway Mixed Use Apartments
6045 Martway
Mission, Kansas 66202
CFS Project No. 17-5085

On behalf of the owners of the Martway Mixed Use development, CFS Engineers, P.A., requests a waiver from stormwater management based on the minimal change is surface runoff characteristics between the pre and post-development site conditions. The site is bounded on the north by Martway Street, on the south by Rock Creek, and along the east and west by low-rise commercial/office buildings. Johnson Drive and Mission's downtown shopping strip is located less than a quarter mile to the north. The Sylvester Powell Jr. Community Center is located to the northwest. The Mission Aquatic Center is located across Rock Creek to the southeast.

Site Location Map, Mission, Kansas
Proposed Martway Mixed Use Development

The proposed 1.767 acre site calls for the removal of three existing single story office buildings and parking lots along the southern side of Martway Street between Beverly Avenue and Dearborn Street and replacing them with a multi-story apartment complex building with business space and parking on the lower level. The apartment building would be elevated to provide

parking at ground level. The changes between the pre and post-development impervious surface area was less than 5,000 sq ft per the APWA 5600, and was measured as follows:

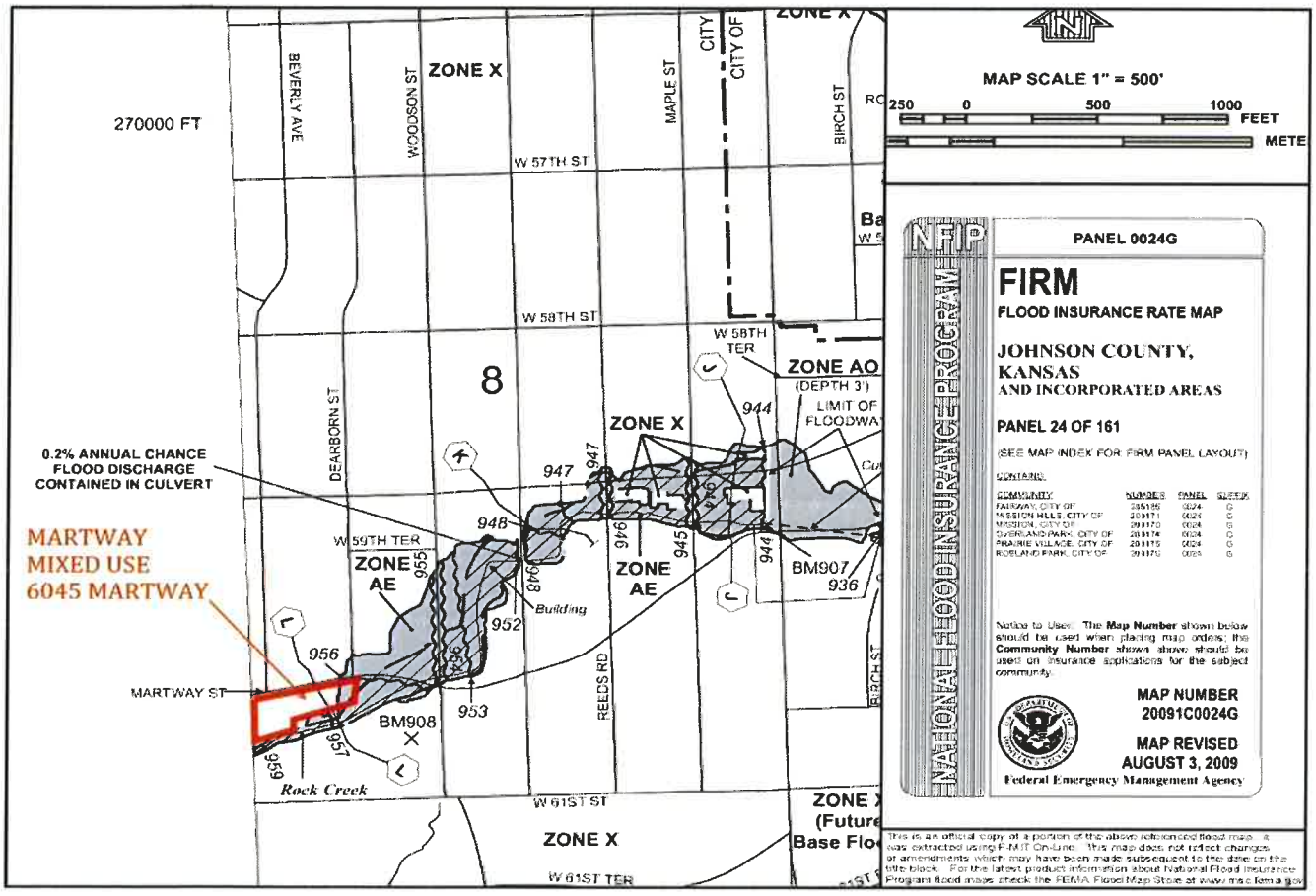
Pre-Development Conditions:

Total Site Area = 1.767 acres
Impervious Surface = 1.415 acres/61,653 sqft
80.1% Impervious

Post-Development Conditions:

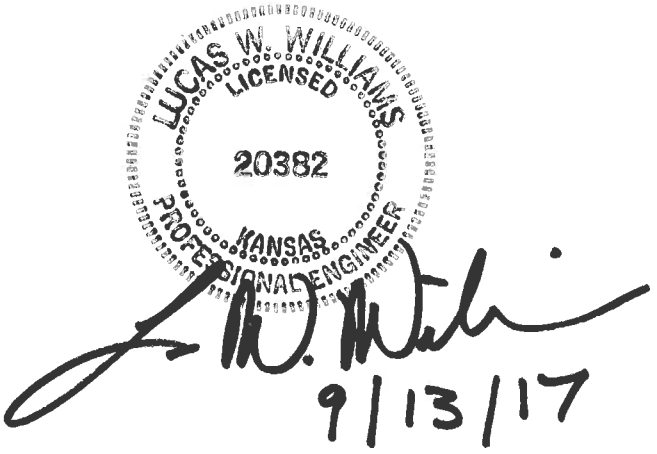
Total Site Area = 1.767 acres
Impervious Surface = 1.494 acres/65,071 sqft (3,418 sqft increase)
84.6% Impervious

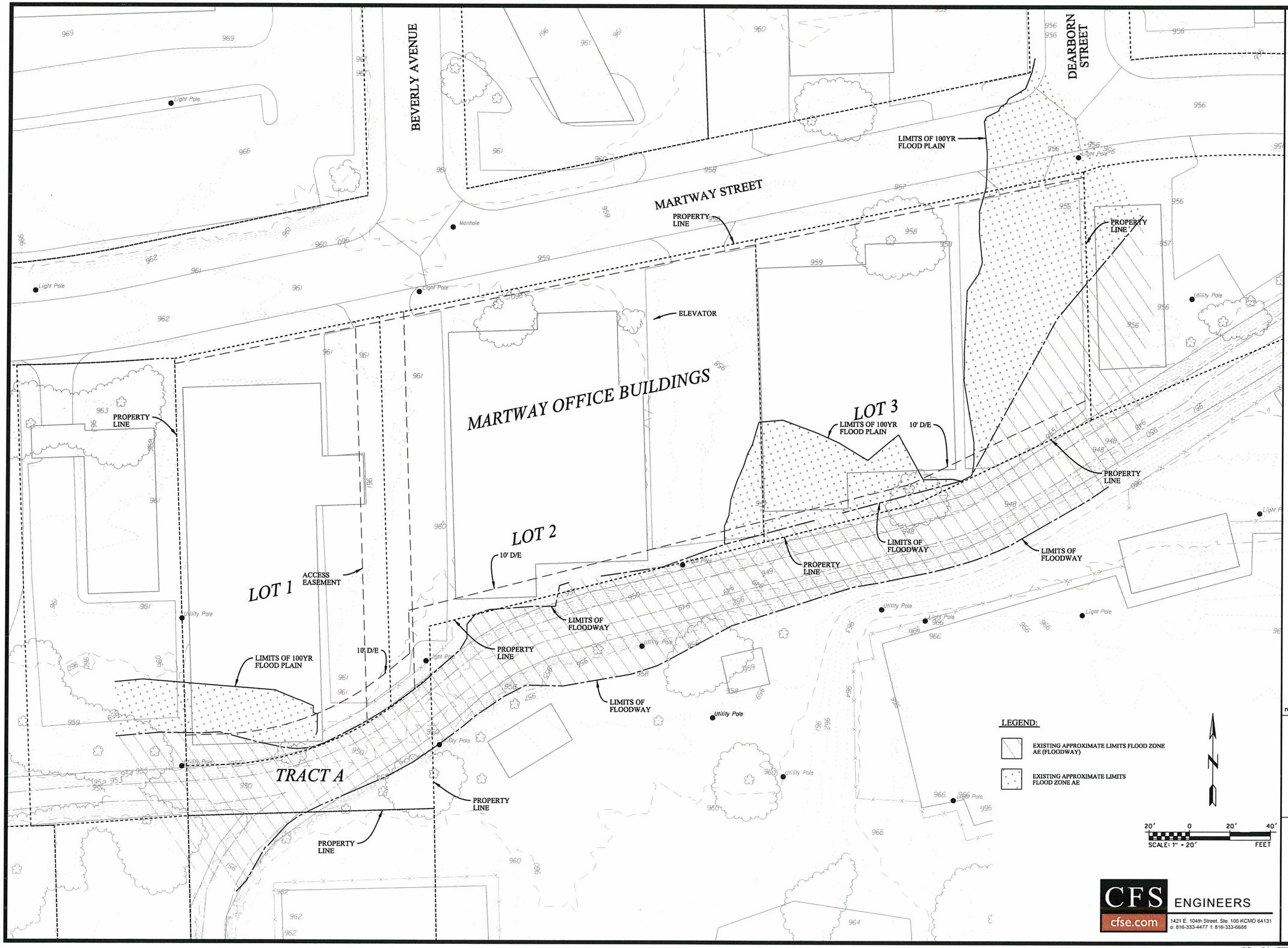
Under the APWA Section 5601.3.A.3, "Remodeling, repair, replacement or other improvements to any existing structure or facility and appurtenances on sites smaller than two acres that does not cause an increased area of impervious surface on the site in excess of 10 percent of that previously existing." The 1.767 acre site is smaller than two acres and the 3,418 sqft increase in impervious surface from 80.1% to 84.6% does not exceed the allowable 5,000 sqft increase limit allowed by the APWA.



Stormwater runoff from the site's proposed parking lot and building roofs would be collected and drained directly into Rock Creek flowing eastwards along the rear of the property. The FEMA FIRM Panel 20091C0024G indicates that a small portion of the site is designated within 100-year flood zone AE from flooding during the 100-year storm event. The 3,491 sqft of business space on the ground floor would be set along the northern side of the site fronting Martway Street, and would be out of the FEMA 100-year flood zone. The upper floor apartments would be constructed on raised piers above the ground floor parking lot and would be one story above the FEMA 100-year flood zone.

The proposed parking lot plan has a total of 166 spaces (including five ADA accessible spaces and one ADA van-accessible space), so the developer would need to lease an additional 44 off-site parking spaces to meet the City's total 210 space requirement for the proposed apartments and business space. Superimposing the 100-year FEMA floodplain elevations from Rock Creek onto the proposed parking lot grading indicated that 40 spaces would be within the floodplain limits, however, no space would have more than the allowable 7 inches of water during the 100-year event.





clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017

16.05.Martway

C202

EXISTING FLOOD PLAIN PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o. 816-333-4477 f. 816-333-6688

GATeam Drives\175085\CADD\175085-ST-SH-Flood-Plain-1.dgn

BEVERLY AVENUE

DEARBORN STREET

MARTWAY STREET

MARTWAY OFFICE BUILDINGS

LOT 1

LOT 2

LOT 3

TRACT A

PROPERTY LINE

LIMITS OF FLOODWAY

Light Pole

Manhole

Utility Pole

R

B

LEGEND:

EXISTING APPROXIMATE LIMITS FLOOD ZONE AE (FLOODWAY)

EXISTING APPROXIMATE LIMITS FLOOD ZONE AE

CUT = 1,837 CUBIC YARDS

FILL = 137 CUBIC YARDS

N

20' 0 20' 40'

SCALE: 1" = 20' FEET

COMPENSATORY VOLUME:

CUT IN 100 YR FLOODPLAIN = 177 CUBIC YARDS

FILL IN 100 YR FLOODPLAIN = 36 CUBIC YARDS

COMPENSATORY VOLUME = 0 CUBIC YARDS

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017

16.05.Martway

C201

CUT & FILL PLAN

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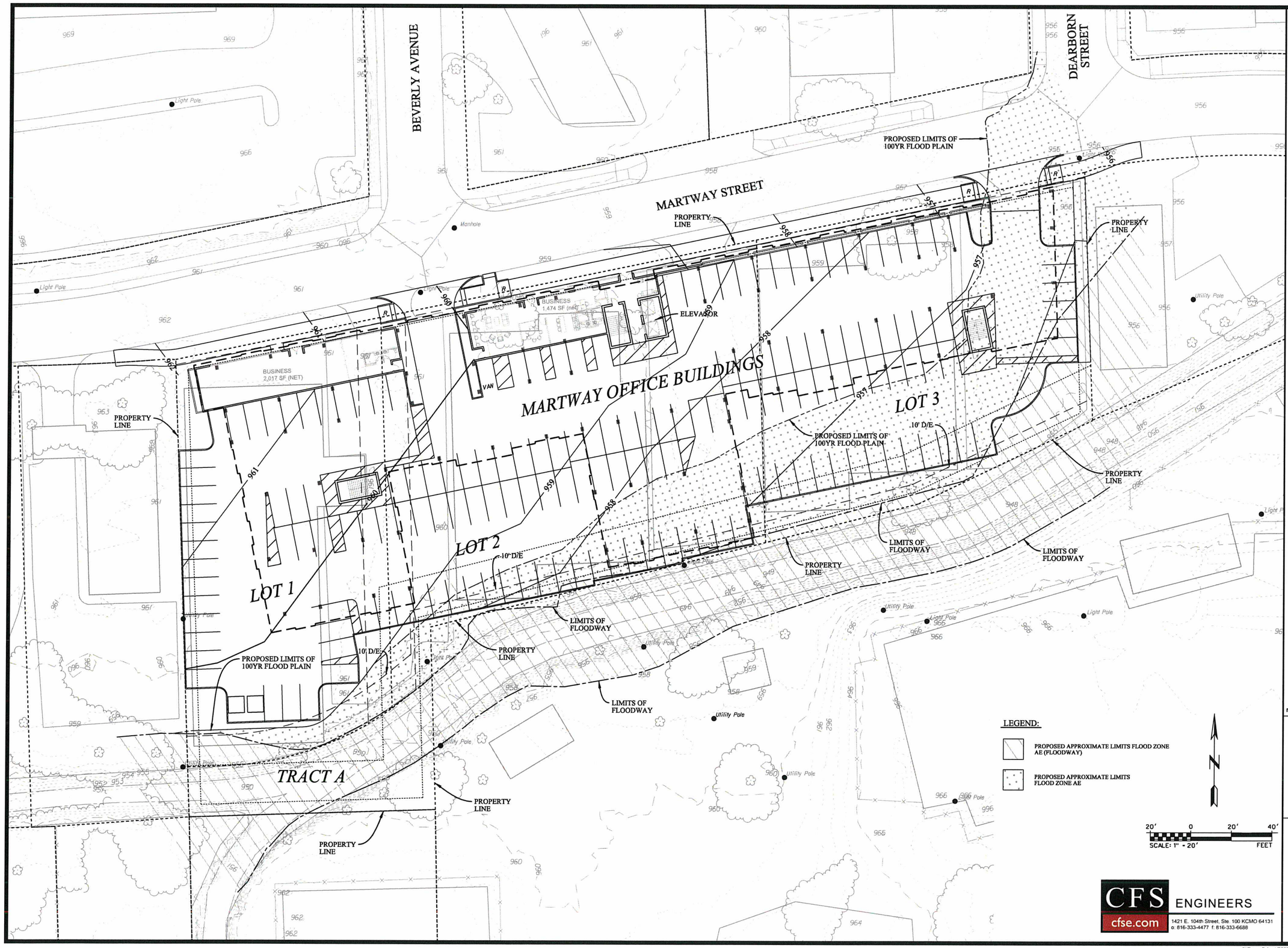

clockwork
423 Delaware St Ste 102
Kansas City MO 64105
www.clockwork-ad.com

LUCAS W. WILLIAMS - ENGINEER
KS PE # 20382

Martway Mixed Use

6009 - 6045 Martway
Mission, KS 64202

rev	issue	date
	PRELIM. DEV. PLAN SUBMITTAL	07.12.2017

16.05.Martway

C203

PROPOSED FLOOD PLAIN PLAN

CFS ENGINEERS
cfse.com
1421 E. 104th Street, Ste. 100 KCMO 64131
o: 816-333-4477 f: 816-333-6688

GATeam D:\Revit\75085\CADD\75085-ST-SH-Flood-Plain-2.dgn

STAFF REPORT
Planning Commission Meeting September 25, 2017

AGENDA ITEM NO.: 4

PROJECT NUMBER / TITLE: Application # 17-09

REQUEST: Final Site Development Plan for Mission Trails

LOCATION: 6201 Johnson Drive

APPLICANT: Steve Coon, EPC Real Estate

PROPERTY OWNER: 6201 Johnson Inc
4520 Madison Ave, Apt 300
Kansas City, MO 64111

STAFF CONTACT: Danielle Sitzman

ADVERTISEMENT: NA

PUBLIC HEARING: NA

Property Information:
The subject property is the site of the former Pyramid Life and Continental General insurance office and is zoned Main Street District 1 "MS1". It is located in the Downtown District and subject to the *Mission, Kansas Design Guidelines for the Johnson Drive Corridor*. "MS1" was assigned to this property at the time of the City initiated rezoning of entire downtown in 2006. The District was designed to reinforce and encourage the existing character within the core of the downtown.

Surrounding properties are zoned and developed as follows:
North:"MS1" Main Street District 1-small row buildings with retail and service uses.

West: “MS1” Main Street District 1-clothing and household goods store and “C-2B” public high school
South:”MS2” Main Street District 2-municipal community center and senior multi-family housing.
East: “MS1” & “MS2” Main Street District 1&2-restaurant, auto repair and various retail & service uses.

Comprehensive Plan Future Land Use Recommendation for this area:
The Comprehensive Plan indicates this area is appropriate for Downtown District to maintain the historic community characterized by small businesses and a pedestrian oriented environment. The ground floor is appropriate for retail with upper floors including housing units and office uses.

The proposed project is in conformance with the intent of the Comprehensive Plan to provide a mix of residential densities and uses located in proximity to the higher commercial intensity uses near Johnson Drive. It also addresses the Comprehensive Plan Goals of supporting multi-modal travel, contributing to the economy of the downtown, providing off-street parking to support the downtown, and investment in the downtown infrastructure by installing streetscape to match rest of the district.

Project Background:
In October of 2016 the subject property was purchased from Waddell & Reed by R.H. Johnson Company. This group also has an ownership role in the adjacent property at 6101 Johnson Drive-The Bar. Since the time of purchase the ownership has marketed the property for sale and redevelopment. At this time the applicant, Steve Coon of EPC Real Estate, is requesting a final site plan approval for redevelopment of the site into a mixed use building consisting of retail, office and housing.

The Preliminary Site Development Plan for Case # 17-04 Mission Trails was approved with four conditions by the City Council in June 2017. This included granting deviations to maximum height and ground floor uses in accordance with the planned district regulations. Other conditions included stipulations on the submission of final traffic and stormwater studies. The City Council also approved the TIF project plan and Redevelopment Agreement for the development at their September 20, 2017 meeting. It stipulates reservation of 50 parking stalls for public use in the parking structure and that construction must be completed by November 30, 2020.

Plan Review
The applicant is proposing a 5-story mixed use building containing apartments, retail space and offices on a 2.8 acre infill site in the downtown near the southwest corner of Johnson Drive and Beverly Avenue. Ground floor uses fronting Johnson Drive would include a restaurant and several small retail/service spaces as well as leasing offices. Two hundred apartments wrapping around an internal courtyard would be located on floors two thru five as well as behind the Johnson Drive frontage on the ground floor. A four level parking garage would be located adjacent to the building to the southeast.

The final site plan submitted for review by the Planning Commission includes the following total planned square footage by use:

	Use	Prelim Approximate Area	Final Area
Retail	Restaurant/Retail/Service	7,500 SF	6,500

Residential	200 units	203,125 SF	200 units/217,153 SF
Office	Leasing	2,500 SF	NA
	Total	**213,125 SF**	
Parking Provided	**Surface (inc on-street)**	**Structured (inc. public)**	**Surface/Structure**
	38 stalls	287 stalls	37/285

Johnson Drive Design Guidelines & Municipal Code Review

City Code encourages reinvestment in existing buildings and structures, as well as compliance with the Design Guidelines. The Planning Commission has the authority to conduct Design Review of any proposed new construction. If appropriate, the applicant can be requested to make revisions to proposed plans, or additional stipulations can be added to any motion for approval. The Johnson Drive Design Guidelines provide a wide range of recommended and required design elements applicable to the development. Relevant excerpts of theses and the site development standards of the municipal code are reviewed below. As Design Review is conducted, Staff encourages the Planning Commission to consider the intent of these standards and evaluate whether this application meets the goals of the document.

Building Orientation & Siting

Appropriately sited buildings can greatly enhance the formation of the public streetscape. To the greatest extent possible, buildings should be sited to provide high quality, functional and livable outdoor public spaces that enhance the use of the building, the street frontage, and the surrounding neighborhoods.

- All buildings must be oriented parallel or perpendicular to public streets within the entire Johnson Drive Corridor.

- New construction and infill buildings shall be oriented to primary streets and must be built to the "build-to" line established in the new redevelopment plans for the Downtown West Gateway and East Gateway Districts. Buildings must extend the entire width of the property along the primary street, and abut any existing adjacent building on either side. A uniform alignment of facades along the sidewalk edge is the key objective. Grade level retail or commercial uses shall have a minimum 75% of the street frontage built to the build-to line.

- Buildings fronting multiple streets shall have consistent façade treatments with respect to materials, scale, proportion and detailing.

Staff Notes-Siting: Buildings are shown filling in the block parallel to the public street and extending the width of the property with parking behind the primary facade. The building is located along the sidewalk with parking behind or to the side. Facade treatments are similar and appropriate. The building is appropriately sited.

Parking

Parking quantity should not be the only issue considered in parking area design. Physical organization, distribution, pedestrian links, and screening are issues that must be addressed in parking lots and on-street parking.

- Parking lot islands and green space shall be incorporated within all parking lots to provide shade and visual relief from large expanses of pavement. Parking lots shall provide a minimum of 6% green space.

- Where a parking lot abuts a street, a minimum 9' wide buffer zone (including sidewalks) shall be required to effectively screen views to parked vehicles. Where a parking lot abuts an interior property line (not a street) a minimum of 4' shall be maintained as a green space. Screening shall be a minimum height of 3' and be of either softscape (vegetation) or hardscape (walls/fencing) or a

combination of both.

- Parking lots and on-street parking shall be designed in such a way to provide a clear, direct path between the parking areas and the business destination.

- Parking lots in the Downtown District should not front on Johnson Drive, but be located behind the building with access from side streets.

Staff Notes-Parking: The Johnson Drive Design Guidelines support structured parking and minimizing the amount of surface parking in redeveloping areas of the city. The proposed design has accomplished this by providing 37 surface and 285 structure spaces. This includes angled parking spaces along Johnson Drive, a small surface parking lot adjacent to street-level retail on the east side of the site and four level parking garage. Access to the parking garage and surface parking would be both from Johnson Drive and Beverly Avenue. The parking garage will connect to the 2nd-4th floors of the building. It is anticipated parking in the ground level of the structure will be reserved for the public while the upper levels will be reserved for residents. Parking areas are located behind or to the side of the primary frontage along Johnson Drive. Surface parking is setback the required distance from the street. Screening is accomplished by a retaining wall with landscaping beds. The design of the surface parking lot meets the intent of the design guidelines.

The applicant has also provided data of parking demand observed at other similar developments in their project narrative. They estimate that 1 stall/1 bedroom unit and 1.5 stalls/two bedroom units is sufficient to meet the needs for residential parking without building unnecessary stalls that would remain unused. The parking provided exceeds the parking ratio required in other zoning districts for the remaining retail and offices uses in the project. The proposed parking plan is acceptable.

Traffic Generation

Access into the site is proposed from two access points, one on Johnson Drive and one on Beverly Avenue. The Johnson Drive access will serve the surface parking lot and the parking garage. The Beverly Avenue access will serve the parking garage. The City's on-call engineers at Olsson Associates requested a full traffic impact analysis to follow up the trip generation assessment submitted with the preliminary site plans.

The amount of traffic expected to be generated by the site has been estimated using standard traffic engineering practices. In addition to traffic volume, the impact to the performance of several intersections adjacent to the site were also studied and assigned a A-F grade. Compared to the previous office use, the proposed residential project is expected to generate more trips during the morning and evening peak hours with a reversal and concentration in the direction of flow. This reflects the expectation that residents leave their homes in the morning and come home in the evening whereas the office was a work destination with clients coming and going throughout the day. All intersections in the immediate vicinity will operate at the same level of service.

Olsson Associates is satisfied with the methodology of the analysis and the final project design as noted in the attached memo. Therefore, no roadway improvements are recommended.

Site Access

Convenient, safe, and direct ingress and egress to individual properties is critical to the commercial success of the Johnson Drive Corridor. Site access shall provide for the safe

movement of both pedestrian and vehicular traffic.

- Primary sidewalks along Johnson Drive shall provide a minimum walking surface of 8 feet in width. Secondary sidewalks, those along the side-streets between Johnson Drive and Martway, shall provide minimum walking surface of 5 feet in width.

- The incorporation of amenities such as seasonal planters and urns, benches, bike racks, and trash receptacles are encouraged within the walkway system adjacent to individual properties. These amenities shall be coordinated with the City of Mission to ensure compatibility with public streetscape improvements. Amenities shall be placed to provide a continuous clear zone for pedestrians, and be placed to avoid conflict with vehicular sight lines at ingress/egress locations.

- Existing curb cuts within all Districts shall be minimized to provide a maximum ingress/egress opening width of 24 feet. The minimum distance between curb cuts shall be 30 feet.

- Service and delivery access areas shall be separated from on-street parking areas and sidewalks. Service and delivery access areas within the Downtown District shall not be located along Johnson Drive.

Staff Notes-Access: Adequate room has been reserved for streetscape elements to match the Johnson Drive streetscape already established and as required by the design guidelines. An 8' clear path will be provided along Johnson Drive. Sidewalks along Beverly Avenue are shown as 5' in width. Service and delivery areas are located inside the building. Public streetscape improvements such as bike racks, streetlights, and landscaping have been reviewed and will be reviewed again at the time of construction drawing to ensure they match the existing streetscape. A pedestrian connection to the Community Center has been provided as well as other pedestrian connections throughout the site. Additional street right-of-way dedication will be required with final plats. Site access is acceptable. The developer is responsible for installation of on-street parking and streetscaping (sidewalk, street trees, benches, bike racks, street lights, etc) around the perimeter of the development.

Screening

Minimizing or eliminating the views to undesirable areas will improve the overall visual quality of the Johnson Drive Corridor. Appropriate areas to be screened include parking lots, delivery areas, loading docks, dumpsters, ground mounted mechanical equipment, utility service connections, ice and vending machines, freezers and coolers, and transformers.

- Screening can be accomplished by the incorporation of softscape (plant materials) or hardscape (fences and walls).

- Architectural elements such as fences and walls shall be of solid construction to prevent visibility of the area to be screened. Fences and walls shall be located and sized to adequately conceal the area in question, and shall be no less than six feet in height.

- Fences and walls shall be designed to reflect and/or complement the architectural style of the adjacent building and shall incorporate similar materials to that of the adjacent building.

Staff Notes-Screening Details of the 6'8" tall stone veneer trash enclosure are shown on A300. Plant materials will be used to effectively screen transformers and utility cabinets on site. The loading dock area will be contained inside the building behind overhead doors interior to the site. Surface parking is screened using a hard and softscape materials. The screening shown on the plan is acceptable.

Landscaping

Effective and attractive landscaping can greatly enhance property values and contribute to the

pedestrian experience throughout the Johnson Drive Corridor. Landscaping is also a recommended material for use as a screening element.

- Property owners are encouraged to provide landscaping on private property that is compatible with that on public property to ensure a consistent appearance along the corridor.

- Street trees to provide shade along the corridor are a priority. Other tree, shrub, ground cover and flower beds are encouraged on private property to further enhance the Johnson Drive Corridor. Courtyard and patio spaces on private property shall be planted with a mix of shade/ornamental trees and shrub plantings equal to a minimum of 10% of the area.

- Automatic irrigation systems are recommended for landscaped areas on private property, and within the public streetscape.

Staff Notes-Landscaping: The landscape plan shows adequate public landscaping and street trees in the public ways. Irrigation will be provided. Private planting areas of equal or greater quality include foundation landscaping around the entire site, planting in the internal courtyard and western patio.

Walls and Fences

Material and design details for walls and fences within the corridor should be designed to complement the architectural character of the Johnson Drive Corridor. Both quality design and materials are paramount to this initiative. Walls and fences are also approved methods for screening.

- Similar to screen walls and fences, the materials and style of non-screening walls and fences shall match or complement those of adjacent buildings.

- Chain link, wood, stockade, or corrugated metal fencing is not appropriate in the Corridor and is prohibited.

- Walls should be designed to provide architectural interest. This can be accomplished by incorporating slight changes in elevation of fence or wall panels, or by varying setbacks to create undulating surfaces that break up long stretches of the wall or fence. Variation of panel design can also serve to create visual interest in long stretches of walls or fences.

- Walls exceeding 25 feet in length shall incorporate plant materials for added visual interest.

- Convenient pedestrian openings shall be coordinated with the surrounding sidewalk system and parking lot and building entrances. Effective sight lines shall be maintained in pedestrian openings of walls and fences to avoid safety hazards.

Staff Notes-Walls: Black iron fencing and Versa-lok segmental block walls will be used on site for fencing and walls. Fencing is generally located along the south property line. A retaining wall is also shown between the surface parking lot and the property to the east. If necessary, the existing stone wall along the west edge of the property may also be replaced with a Versa-lok wall in a complementary color. All segments of wall are shown with landscaping are are acceptable in their design.

Building Facades

Forms and elevations of new buildings should be detailed and articulated to create interesting facades.

- Provide consistent, sympathetic treatment of all exterior facades within the District in regards to color, materials, architectural form, and detailing. A healthy mix of complementary building materials is

encouraged, but not to be overdone. Individual façade elements should respect the scale of immediately adjacent building elements. Construction infill should incorporate some of the detailing present in the surrounding existing buildings. Design control devices may include, but are not limited to façade materials, vertical and horizontal datum lines, and window size and shapes.

- Vary setbacks on wall surfaces to form entrances, express structural elements, or to create special exterior areas such as planters, seating, etc.

- Building elements that create strong patterns of shade and shadow are encouraged.

- Visible rear and side facades should provide consistent visual interest by incorporating characteristics similar to the front façade.

- Stylized, nostalgic, or thematic architecture which is characteristic of a particular trend, historic period, corporate or franchise style is prohibited in the Downtown and East Gateway Districts, particularly when the intent is to use the building as advertising.

- A concentration of building details at ground or sidewalk level is an appropriate way to create visual interest and enhance the pedestrian environment. It also helps to promote walk-in commercial activity. This is particularly relevant within the Downtown and East Gateway Districts.

- Diversity of architectural design shall be encouraged within the Corridor, especially that which includes local character and materials.

Staff Notes-Facades: The applicant has provided a description of the facade treatments in the project narrative. In general, wall faces are broken into solid and open spaces horizontally through the use of different materials and vertically with decks and tower features. There are a concentration of ground level features such as doors, storefronts, canopies, architectural lighting, decorative tile installations, and textured materials. Similar facade treatments are used on all sides of the building. The facade of the parking structure should be slightly altered as discussed in that section below. Otherwise, the building facade represents an acceptable level of detail and design.

Building Proportion and Scale

The scale of the shopping District in Downtown Mission, Kansas is similar in scale to others in nearby communities which serve as good models of appropriate scale and proportion. The shops in Prairie Village, Fairway, Brookside, and the Plaza have quality building stock with complementary massing, proportion, and human scale elements.

- Buildings should be designed to be compatible in scale and proportion to buildings within their immediate context on Johnson Drive. Designs should incorporate architectural elements that relate to the human scale.

- The upper stories of buildings in the Downtown District beyond the 2nd story shall incorporate a minimum 8’ step back from the front façade of lower stories.

- Lower levels of buildings should be differentiated architecturally from upper levels.

- Incorporate elements that give the building perceptible scale. Large buildings in particular should be designed to reduce their perceived height by dividing the building mass into smaller scale components.

- Rhythm and repetition of building elements is strongly encouraged. This is accomplished through incorporation of regular or patterned units that are organized to provide a continuance, flow or sense of movement.

- Spaces between building masses (i.e. alleys, recessed entries, courtyards) should be scaled and proportioned to maximize the comfort of users. These public areas should not be dark or secluded spaces. They should incorporate detailing that adds interest, orientation, and spatial definition.

- Use columns, fenestration, doorways, roof elements, wall patterns, light fixtures, signs, paving patterns and landscape to create rhythm.

Staff Notes-Proportion & Scale: The applicant has provided a description of the building proportions and scale in the project narrative. In general, varying building heights and massing of building features are used to accommodate the topography of the site and to address the surrounding public realm. The design package and Sheet A300 show renderings and building sections which demonstrate the relationship of the building to the surrounding neighborhood. Building step backs are incorporated in various levels of the building in different ways. The building represents an acceptable level of detail and design.

Building Materials

Designers, property owners, and developers are encouraged to creatively blend new construction with existing in ways consistent with a singular district. The selection of quality building materials is paramount to achieving this goal.

- Buildings should be built of high quality, sustainable long-term components. Non-durable materials such as thin layer synthetic stucco (EIFS) are generally discouraged and shall not be used within 8 feet of ground level unless specially reinforced and located away from pedestrian accessible areas. EIFS and Stucco plaster shall not be used for more than 25% of the façade area of any one story.

- Buildings should be constructed to be as maintenance free as possible. Exterior materials should not be considered temporary surfaces to be replaced during the life of the building.

- Materials should not artificially simulate other materials. If brick is proposed, it shall be real brick – not Z brick or other such imitation material.

- Predominant exterior building materials should include hard surfaced exterior wall materials such as:
- stone,
- stucco plaster – shall be limited to areas 4 feet or more above the ground level
- brick,
- ceramic tile,
- colored and textured concrete masonry units
- Predominant exterior building materials shall not include the following:
- Smooth face concrete block
- Tilt-up and pre-cast concrete panels
- T-1-11 and other wood shingle, and composite sheet sidings
- EIFS

- Clear glass is preferred; glass that is highly tinted or tinted in unnatural colors or with a reflective finish is not permitted.

- Color and texture for architectural finishes should be selected to provide visual unity. Colors that offer low reflectance in subtle neutral or natural tones are preferred over the use of high intensity, metallic, fluorescent, or black. Brighter colors may be featured at trim and accent areas. Material and/or color changes should occur at a change of plane in building elements. However, material or color changes at outside corners of a building that give an impression of an artificial façade are discouraged.

- Predominant colors for building facades in Mission should match or complement the natural yellow, pale tan, brick, beige, brown and terracotta tones existing throughout the Corridor.

- Designers should choose accent colors that complement the predominant color of the building façade, but the combination of body coat and accent colors should never exceed a total of four colors on the building façade.

Staff Notes-Materials: The proposed building materials and architectural style are reflected in the colored design package submittal, sheet A200,and the materials sample board. A Spanish Revival or Mission Revival architecture theme is represented by the images, generally consisting of cast stone bases, stone veneer, pre-cast panel, stucco, clear glass, tile roofs and synthetic wood timber canopy elements. Mosaic spanish tile is used as an accent. Materials are natural color tones, offer low reflectance surfaces, and are intended to be low maintenance. The proportion of stucco used is not itemized separately or listed by story. Stucco is a common material for this architectural style and may be appropriate in greater proportion if used effectively. The applicant should provide this calculation and provide a justification for the use of the material.

Building Roofs

When creating infill construction, roofs should not only be designed to protect a business from the elements, but also to reinforce the lines, scale, and style of it's neighboring buildings

- Flat or low slope roofs (less than a 4:12 slope) shall be hidden by a parapet on all facades facing major streets.

- There shall be no exposed scuppers, gutters or downspouts on the facades facing major streets. Roof drainage shall be accomplished by the use of internal roof drains or by sloping roofs to the rear of the building.

- Roof mounted mechanical equipment shall be hidden from pedestrian view by roof parapet walls.

- Roofing or infill development should not introduce a new roof form to the area.

Staff Notes-Roofs: The proposed flat roof and parapet are an acceptable design. Rooftop units are to be screened by the parapet as noted on A200.

Display Windows

The goal of every competitive business is to attract customers and generate increased sales. Storefront display windows in the Downtown and East Gateway District offer the greatest marketing opportunity to attract the attention of passers-by and to generate new sales.

- First floor buildings fronts should incorporate a large expanse of glass; at least 75% of the facade. This is required in the East Gateway on Johnson Drive and on Martway.

- Storefront display systems should retain the simplicity of the design characteristics of the District.

- New storefront display windows should be of transparent glass. Highly tinted, colored or reflective glass is prohibited.

- Simple vertical framing is encouraged. Avoid horizontal window division except to divide storefront display windows from transom windows.

- Elevate display windows above sidewalks approximately 18-24 inches. Bulkheads should be constructed out of sturdy, easy to maintain materials such as stone, brick, tile and decorative block.

- Businesses are encouraged to provide tasteful and frequently updated window displays that can market a variety of goods and service a business offers, and give the Corridor character and interest.

- Use aluminum or wood frame construction that provides adequate insulation and prevents condensation.

Staff Notes-Windows: The proposed windows are an acceptable design and comprise 43%-57% of the ground floor. As the ground floor was allowed a deviation in use for uses other than retail, this may be an appropriate proportion. The applicant should provide a justification for this design.

Building Entrances

Entrances should be designed to allow individual businesses to present a clear defining image without compromising the sense of unity of the whole building block or façade.

- Entrances should be accentuated and oriented in a way that engages the primary public street.

- Entrances should be easily identifiable.

- Entrances to individual stores or uses should be articulated.

- A recessed entry provides a pleasant transition from the sidewalk to the interior of a commercial building. It helps ease the change from the public street to the more private interior. Recessed entrances also provide a safe place for entry doors to open without extending into the public right-of-way.

- Buildings with recessed entrances should have the door positioned parallel to the street (except at corner entries). The sidewalls of the recessed entry should continue the storefront display.

- Commercial doors act as part of the storefront display area, and should continue the same general principles of the display window and bulkheads.

- Front doors are typically tall and stately, and incorporate large areas of glass that are elevated above sidewalk level.

- Secondary doors (such as those leading to 2nd floor spaces) should have smaller windows, and be placed less prominently than the main commercial entrance.

- Buildings with rear parking lots should incorporate rear doors with the same design principles as front entrance doors.

Staff Notes-Entrances: The project includes entrances on all sides of the building. The proposed entrances respect the suggested hierarchy and design features above.

Building Awning and Canopies

Metal canopies and fabric awnings serve to provide a pleasant sidewalk space for shoppers, add character and interest, and may serve as backdrops for signage and graphics. Awnings are a desirable feature in the Corridor (especially on south facing facades), but inappropriately designed, they can significantly reduce the appeal and diversity of the Corridor streetscape.

- Awnings and canopies should fit the opening they are intended to cover.

- Awnings and canopies should be designed to create visual interest and diversity for individual businesses.

- Elaborate facings or extravagant designs on awnings or canopies should be avoided. Flat canopies should be simple and unadorned.

- Awnings and canopies must provide a minimum vertical clearance of 8 feet from pavement level.

- Permanent canopies and marquees are encouraged if they fit the architectural style and aesthetic of the building.

Staff Notes-Awnings: The Johnson Drive elevation includes flat canopies along the ground floor. They add interest to the facade and are appropriately designed.

Signs

Building signs convey more about an individual store (and business district) than any other storefront element. Signs can add visual interest and detail to a building, as well as communicate the quality of business within. In order for signs to be effective, they must be harmonious in scale and color with the building and neighboring buildings. The desired intent is for signage to be integrated such that it becomes a natural part of the building façade.

- Signs should fit the overall proportions of the building and be integrated into the building design.

- Signs should not dominate the building façade.

- "Shingles" or projecting signs that are more pedestrian oriented are encouraged within the Downtown and East Gateway Districts, and should be designed to be proportional to the building façade. Business name signs painted on plate glass are also encouraged.

- Creative signs within the context of the building and signs that incorporate bold and vibrant colors while exemplifying good graphic design are encouraged. The incorporation of logos or icons are also encouraged.

- Preferred sign materials are sign foams, redwood and cedar for sand blasted signs, glass, molded plastic, flat plastic with a return, stainless steel, brass, aluminum, bronze and rolled steel. Signage materials should be consistent and complementary with architectural materials. Neon signs may be used to indicate a business name or trade, but not to advertise products or sales or "business open" signs. Box signs are not allowed.

- Signs should be installed on the frieze or sign band of a building, or on windows, doors, or awnings. Establish a sign band on buildings that may not have a clearly demarcated area for signs.

- Signage shall be ground lit or otherwise washed from a light source which is concealed.

Staff Notes-Signs: The applicant has submitted a private sign criteria for this mixed-use development as an alternative to the specific sign requirements.

Lighting

Effective façade lighting can enhance the pedestrian environment and create a dramatic visual effect that encourages nighttime activity.

- Lighting should be architecturally integrated with the building style, material, and color.

- Control lighting intensity to assure light pollution and glare are not directed toward neighboring areas and motorists. Fixtures should not reveal the light source. Use fixtures with diffusing or other lenses to control adverse lighting effects.

- Use down-lighting, bollards, and wall-mounted sconces to reinforce circulation corridors.

- Area lighting should result in a minimum 1/2 foot candle at all pedestrian areas.

- Illumination of portions of buildings, direct or indirect, may be used where the utility or aesthetic results can be demonstrated. Use lighting to illuminate signage or special architectural details, and to illuminate merchandise in display windows.

- Wall mounted flood lights, flashing, pulsating or moving lights, non-commercial lighting fixtures, or the use of neon tubing to border windows and doors is prohibited.

- In parking lots, no cobra head lights or building mounted floodlights are allowed. Lights shall have a minimum height of 12 feet and a maximum height of 20 feet. Light sources are to be directed away from residential neighborhoods with hoods and shades.

- To accent landscaping, landscape light fixture shall be utilized. They should be directed away from the property line and should have extension shields to minimize glare and light source visibility.

Staff Notes-Lighting: A variety of lighting techniques are proposed for the site. This includes streetlighting along Johnson Drive to match the corridor standard, wall sconces, egress and pathway lighting, landscape accent lights, wall up and down lights, and parking lot site lighting. A lighting photometric sheet E100 and light specification sheets have been provided and reviewed. Adequate lighting levels are provided in pedestrian areas. The proposed color temperature of the site lights is warm white or 3,000 K. The applicant will be asked to verify full cutoff standards are met with the parking lot site lights.

Parking Structures

Parking Structures are an effective way of creating a large amount of parking in a limited area. Parking structures should incorporate design features that effectively mask the building as a parking structure. Creativity, attention to detail, and an understanding of the site should be utilized when designing these structures.

- Parking structures shall not be allowed on Johnson Drive unless they have commercial or retail uses on the ground floor fronting Johnson Drive. Vehicle access to parking structures is not permitted on Johnson Drive.

- Unless otherwise specified, parking structures in the Downtown and East Gateway Districts should be constructed to zero-lot lines.

- Primary façades of the parking structure shall be designed to be compatible with neighboring buildings. Parking structures shall respect adjacent property by providing appropriate transitional elements such as pedestrian alleys, green spaces or height reductions.

- Facades of parking structures shall adhere to the same building quality and aesthetic requirements outlined elsewhere in the Building Guidelines.

- Parking structures shall provide clearly defined pedestrian entrances and circulation.

- Parking structures shall be screened so that views of cars within the structure are obscured from the street. They should incorporate the same level of architectural detail as commercial buildings.

Staff Notes-Parking Structures-The proposed parking structure is located behind the main structure and fronts Beverly Avenue. It is buffered from surrounding properties by the public street and parking lots. In additional to vehicle parking, covered bicycle storage is also included. Staff will work with the applicant to select an appropriate rack or locker system. The facade reflects similar design features of the main building such stone and arched windows. Pedestrian access is provided via separated walkways which connect to the development, the Community Center and the street network. An optional metal garage canopy is shown on the top level. The structure provides walls which partially screen cars parked on the various floors from view from the street. Stone veneer (SV-1) should be extended along the entire base of the parking structure to match the main structure. In addition, the four tower like walls on the south and north elevations should receive a similar treatment (SV-2) as the main north facade.

With this condition, the design of the parking structure is acceptable.

Stormwater Management

The subject property generally drains southeasterly to below-ground stormwater infrastructure along Beverly Avenue collected in a 5'x5' inlet. The city recently installed an a reinforced concrete box (RCB) interceptor along Johnson Drive to collect and re-route stormwater heading to the site from the north side of Johnson Drive. Off-site drainage from the west of the building will be routed in an enclosed pipe system south of the proposed building to allow it to continue to mimic existing conditions. The proposed development results in a slight reduction in the overall impervious surface therefore no detention is required for the project.

The City's on-call engineers at Olsson Associates have reviewed the Final Stormwater Summary and the proposed final site plans for storm water control. They are satisfied with the project design.

Sustainable design and construction practices

The Mission Sustainability Commission has developed a rating and certification system for development projects. The proposed plans were reviewed by the Sustainability Commission with the applicant at their May 1st meeting and received a favorable opinion.

Compliance with Planned District Deviations

The proposed plan complies with the height and use deviations granted with the approval of the Preliminary Site Plan. The proposed building is five stories or 65' in height. The building height to the roof deck is approximately 55' with the parapet and towers adding an additional 10'(Sheet A200). A majority of the street frontage along Johnson Drive (53.4%) is shown as retail or service uses (Sheet A110).

Code Review: Consideration of Final Development Plans (440.190)

Final site plans which contain modifications from the approved preliminary development plan but which are in substantial compliance with the preliminary plan, may be approved by the Planning Commission without a public hearing, provided that the Commission determines that the landscaping and screening plan is adequate and that all other submission requirements have been satisfied. For purposes of this Section, lack of "substantial compliance" shall have the same meaning as "significant changes" as set forth in Section 440.175(A)(5).

Staff Recommendation

The proposed development conforms with the Comprehensive plan, meets the overall intent of the "MS1" zoning district, complies with previous conditions, and meets the required findings for Section 440.190. Therefore, Staff recommends the Planning Commission approve the Final Site Development Plan for Case # 17-09 EPC-Mission Trails with the following stipulations:

1) Prior to the issuance of any building permits, a revised final plat must be approved by the City. Right-of-way should be dedicated including all on-street parking areas, sidewalks, and public infrastructure.

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2) Prior to the approval of construction drawings by staff:
    a) Provide an acceptable bike racks/locker in the parking structure
    b) Ensure all Johnson Drive streetscape elements match the recent Johnson Drive project As-Built drawings
    c) Provide full cut-off of parking lot/structure pole mounted site lighting.

3) Submit a revised final site plan for staff review and approval showing:
    a) The extension of the stone veneer (SV-1) along the entire base of the parking structure to match the main structure.
    b) The four tower like walls on the south and north elevations should receive a treatment (SV-2) similar to the main north facade.

FINAL DEVELOPMENT PLAN
MISSION TRAILS
MISSION, KANSAS

CIVIL SHEET INDEX

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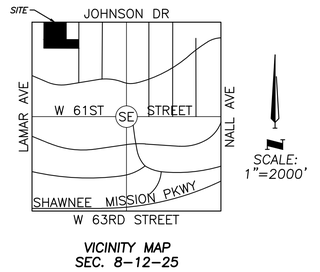
OWNER

6201 JOHNSON INC.
4520 MADISON AVE. APT. 300
KANSAS CITY, MO 64111
PHONE: (816) 268-2434

EXISTING LEGAL DESCRIPTION:
PROPOSED LOT 1 OF DOWNTOWN MISSION, A SUBDIVISION IN THE NORTHWEST 1/4 OF THE SOUTHEAST QUARTER OF SECTION 8-12-25, IN THE CITY OF MISSION, JOHNSON COUNTY, KANSAS, CONTAINING 2.8161 ACRES MORE OR LESS.
(FINAL PLAT BY OTHERS)

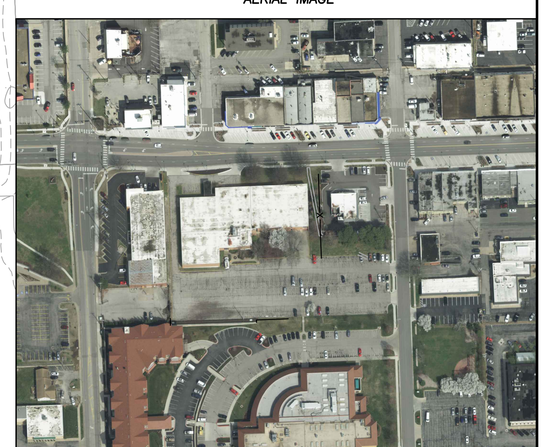


VICINITY MAP
SEC. 8-12-25

DEMOLITION NOTES:

1. IN GENERAL, ALL EXISTING FEATURES WITHIN THE SITE ARE TO BE REMOVED.

AERIAL IMAGE



klover architects incorporated
10955 LOWELL AVENUE, SUITE 700 • OVERLAND PARK, KS 66210
ph: 913.649.8181 • fx: 913.649.1275 • www.klover.net

project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
FDP SUBMITTAL 07.17.17

drawing revisions
No. Description: Date:

professional seal

CIVIL ENGINEER

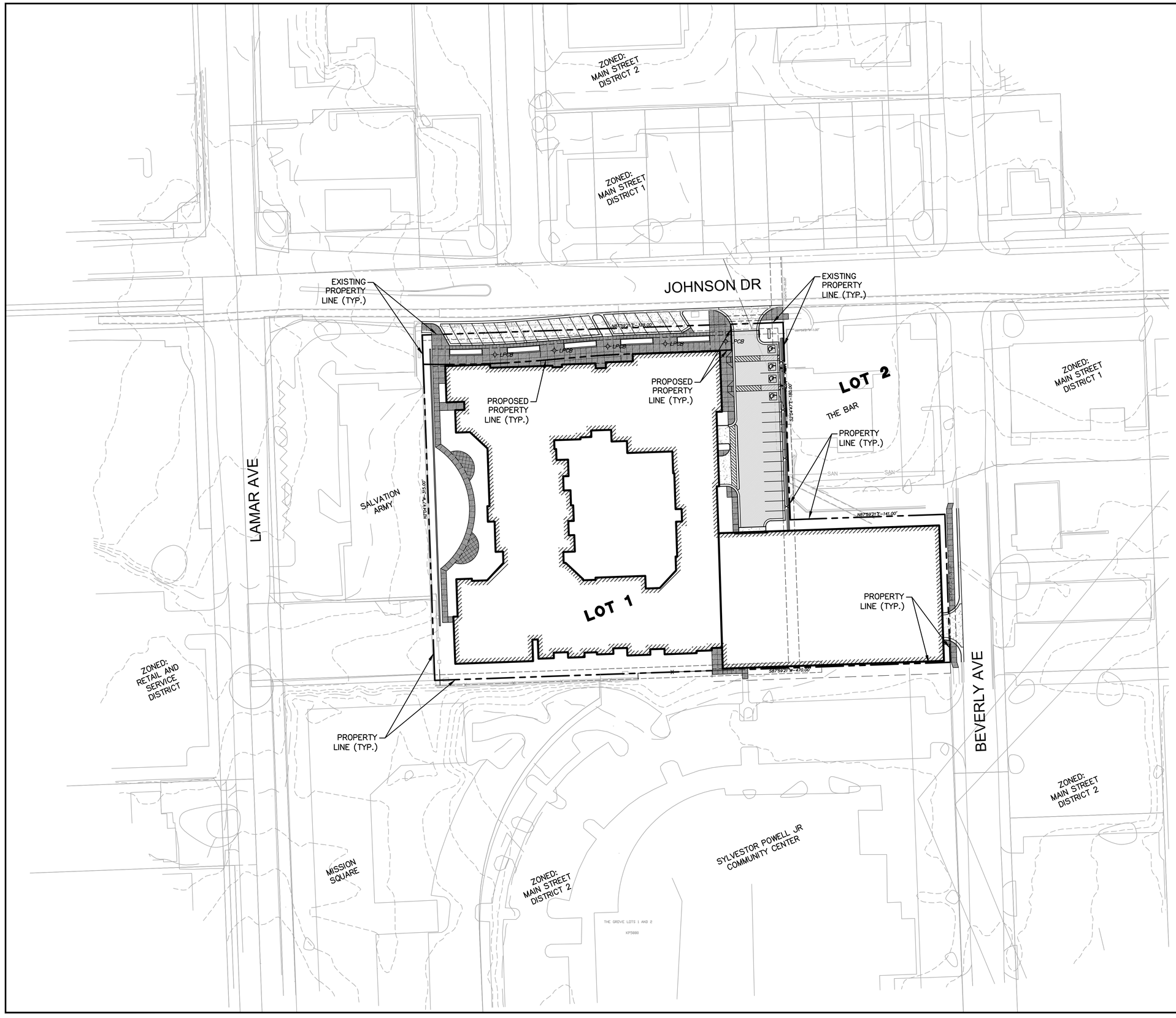
SHAFER, KLINE & WARREN INC.
11250 CORPORATE AVE.
LENEXA, KS 66219
P. 913.888.7800
SKW-INC.COM

drawing title

EXISTING CONDITIONS

drawing number

C001



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project title

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JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance

FDP SUBMITTAL	07.17.17

drawing revisions

No.	Description:	Date:

professional seal

CIVIL ENGINEER

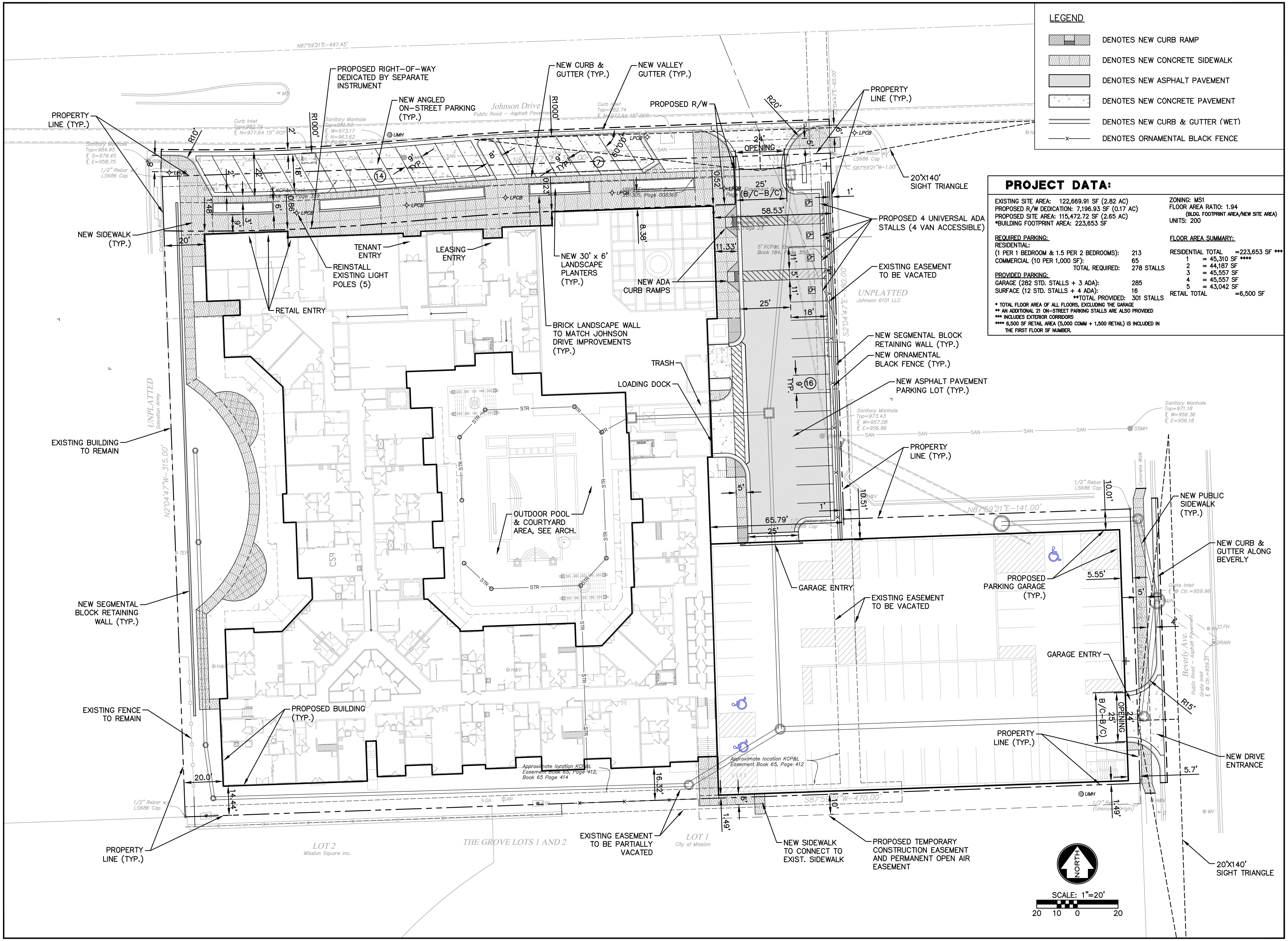
SHAWNEE KILINE WARREN INC.
CORPORATE AVE.
LENEXA, KS
P:
SKW-INC.COM

drawing title

GENERAL LAYOUT

drawing number

C002



LEGEND

- DENOTES NEW CURB RAMP
- DENOTES NEW CONCRETE SIDEWALK
- DENOTES NEW ASPHALT PAVEMENT
- DENOTES NEW CONCRETE PAVEMENT
- DENOTES NEW CURB & GUTTER (WET)
- DENOTES ORNAMENTAL BLACK FENCE

PROJECT DATA:

EXISTING SITE AREA: 122,669.91 SF (2.82 AC)
PROPOSED R/W DEDICATION: 7,196.93 SF (0.17 AC)
PROPOSED SITE AREA: 115,472.72 SF (2.65 AC)
*BUILDING FOOTPRINT AREA: 223,653 SF

ZONING: MS1
FLOOR AREA RATIO: 1.94
(BLDG. FOOTPRINT AREA/NEW SITE AREA)
UNITS: 200

REQUIRED PARKING:

RESIDENTIAL:	
(1 PER 1 BEDROOM & 1.5 PER 2 BEDROOMS):	213
COMMERCIAL (10 PER 1,000 SF):	65
TOTAL REQUIRED:	278 STALLS

PROVIDED PARKING:

GARAGE (282 STD. STALLS + 3 ADA):	285
SURFACE (12 STD. STALLS + 4 ADA):	16
**TOTAL PROVIDED:	301 STALLS

FLOOR AREA SUMMARY:

RESIDENTIAL TOTAL	=223,653 SF ***
1	= 45,310 SF ****
2	= 44,187 SF
3	= 45,557 SF
4	= 45,557 SF
5	= 43,042 SF
RETAIL TOTAL	=6,500 SF

* TOTAL FLOOR AREA OF ALL FLOORS, EXCLUDING THE GARAGE
** AN ADDITIONAL 21 ON-STREET PARKING STALLS ARE ALSO PROVIDED
*** INCLUDES EXTERIOR CORRIDORS
**** 6,500 SF RETAIL AREA (5,000 COMM + 1,500 RETAIL) IS INCLUDED IN THE FIRST FLOOR SF NUMBER.

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MISSION TRAILS
JOHNSON DRIVE
MISSION, KS

projectnumber
17042.001

drawingissuance
FDP SUBMITTAL 07.17.17

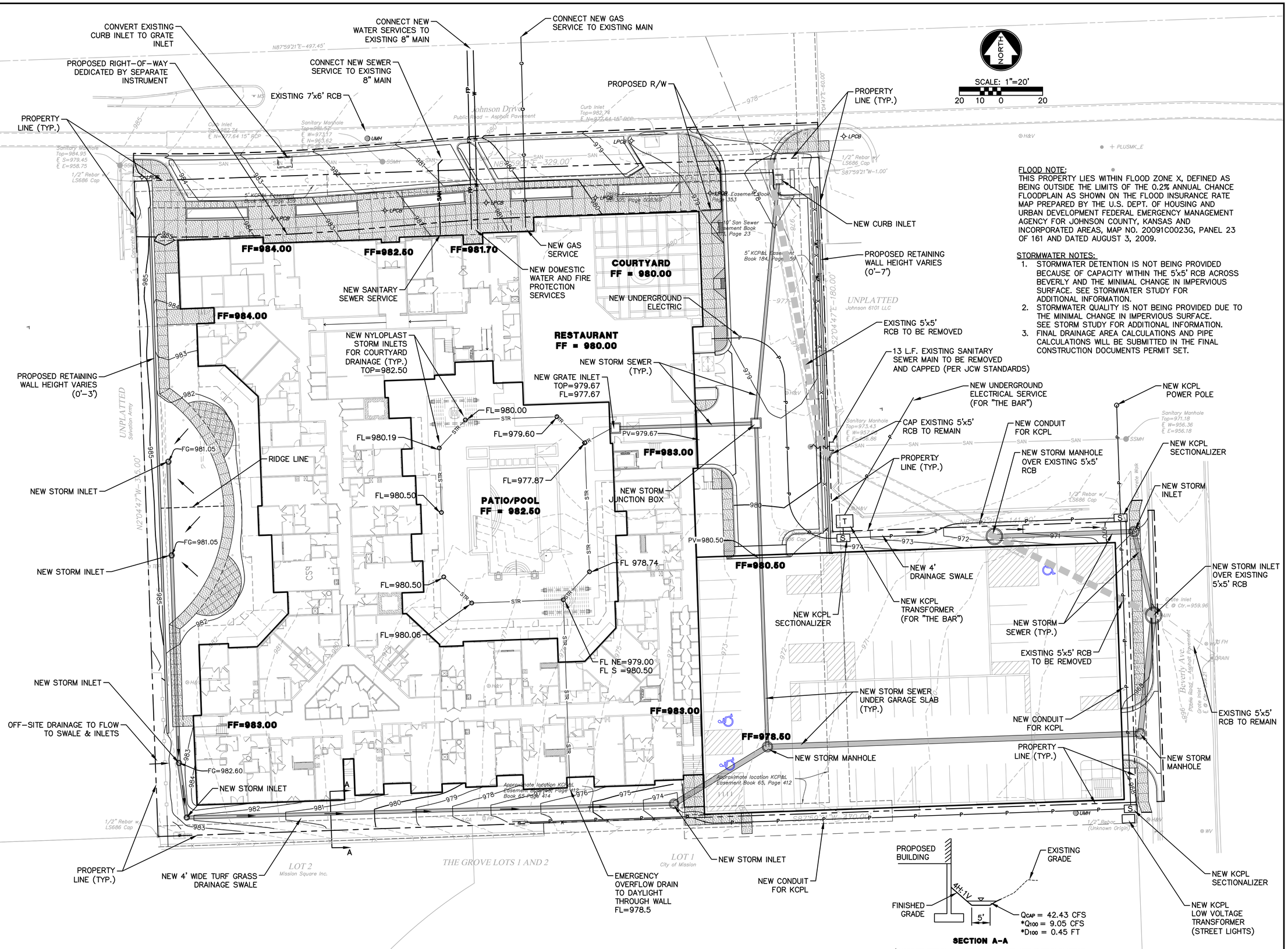
drawingrevisions

No.	Description:	Date:

professionalseal
CIVIL ENGINEER
SKW
SHAFER, KLINE & WARREN INC.
CORPORATE AVE.
LENEXA, KS
SKW INC.COM

drawingtitle
SITE PLAN

drawingnumber
C003



FLOOD NOTE:
THIS PROPERTY LIES WITHIN FLOOD ZONE X, DEFINED AS BEING OUTSIDE THE LIMITS OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT FEDERAL EMERGENCY MANAGEMENT AGENCY FOR JOHNSON COUNTY, KANSAS AND INCORPORATED AREAS, MAP NO. 20091C0023G, PANEL 23 OF 161 AND DATED AUGUST 3, 2009.

STORMWATER NOTES:

1. STORMWATER DETENTION IS NOT BEING PROVIDED BECAUSE OF CAPACITY WITHIN THE 5'x5' RCB ACROSS BEVERLY AND THE MINIMAL CHANGE IN IMPERVIOUS SURFACE. SEE STORMWATER STUDY FOR ADDITIONAL INFORMATION.
2. STORMWATER QUALITY IS NOT BEING PROVIDED DUE TO THE MINIMAL CHANGE IN IMPERVIOUS SURFACE. SEE STORM STUDY FOR ADDITIONAL INFORMATION.
3. FINAL DRAINAGE AREA CALCULATIONS AND PIPE CALCULATIONS WILL BE SUBMITTED IN THE FINAL CONSTRUCTION DOCUMENTS PERMIT SET.

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JOHNSON DRIVE
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drawing issuance

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drawing revisions

No.	Description:	Date:

professional seal

CIVIL ENGINEER

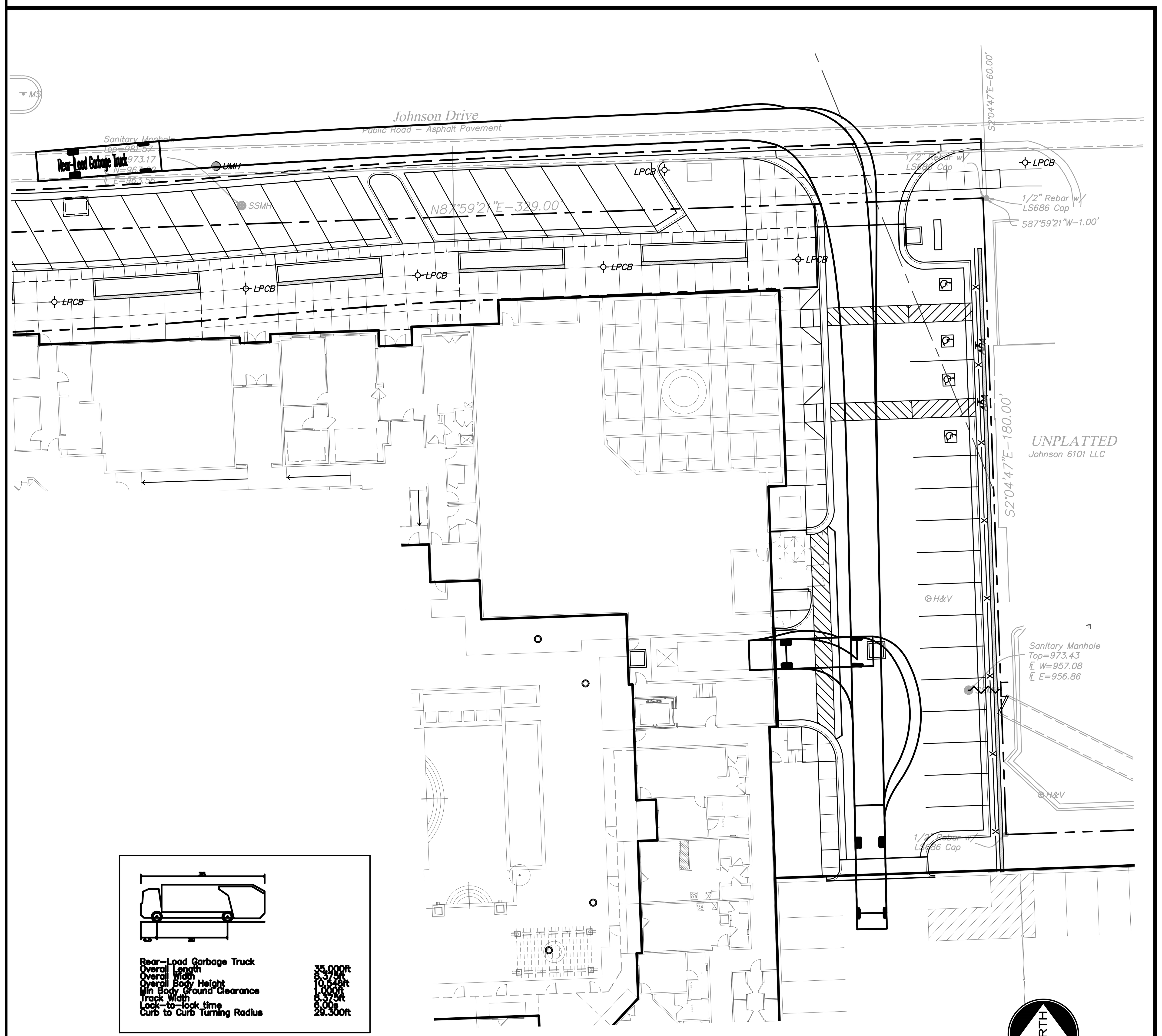
SHAWNEE ENGINEERING, INC.
CORPORATE AVE.
LENEXA, KS
P:
SKWINC.COM

drawing title

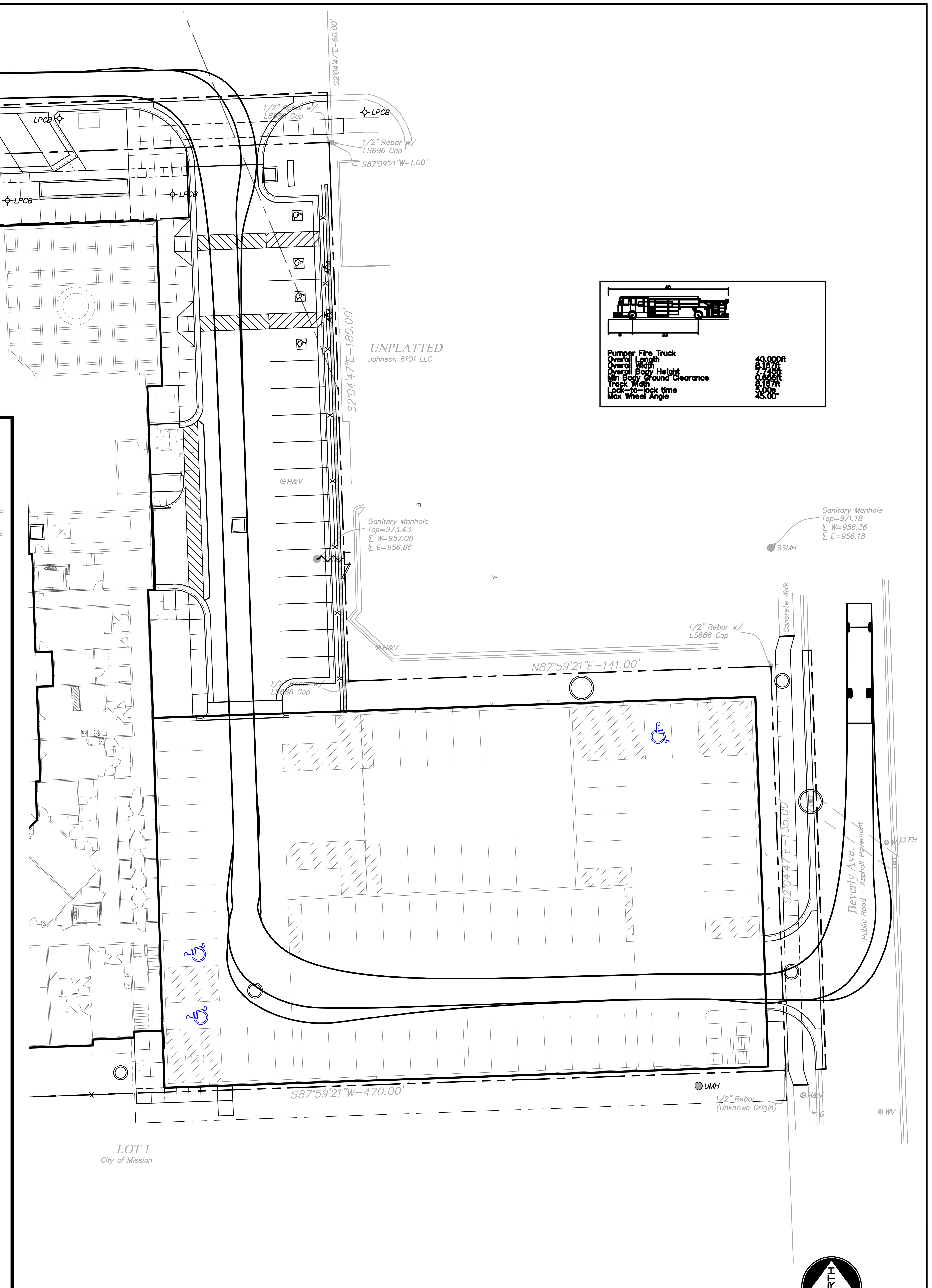
GRADING & UTILITY PLAN

drawing number

C004



TRASH TRUCK MOVEMENT



FIRE TRUCK MOVEMENT

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THE ARCHITECT DISCLAIMS responsibility for the existing building structure, site conditions, existing construction elements, or any documents, drawings or other instruments used for any part of this Project which do not bear the Architect's seal. The Architect's services are undertaken only in the interest of the Project Owner. No obligation is assumed by the Architect for the benefit of any other entity.

RELATED DOCUMENTS: This Drawing is a single component of an integrated set of Construction Documents. General and Supplementary Conditions of the Contract, General Requirements, Specifications and other Drawings may affect the Work described. Failure to review and integrate the design intent of the whole of the Construction Documents does not relieve the Contractor from providing a complete Project.

COMPLY WITH all laws, codes, ordinances and regulations with authorities having jurisdiction and with requirements of the Landlord, if applicable. Do not start Work until all permits and required approvals are obtained.

VERIFY ACTUAL CONDITIONS and dimensions prior to construction. Commencement of work constitutes verification and acceptance of all existing conditions. Application of a material or equipment item to Work installed by others constitutes acceptance of that Work, and assumption of responsibility for satisfactory installation.

DIMENSIONS SHOWN are to finish face of a material unless otherwise indicated.

CALCULATE & MEASURE dimensions – DO NOT SCALE drawings unless otherwise directed.

project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number

17042.001

drawing issuance

FDP SUBMITTAL 07.17.17

drawing revisions

No.	Description:	Date:

professional seal

CIVIL ENGINEER

SKW

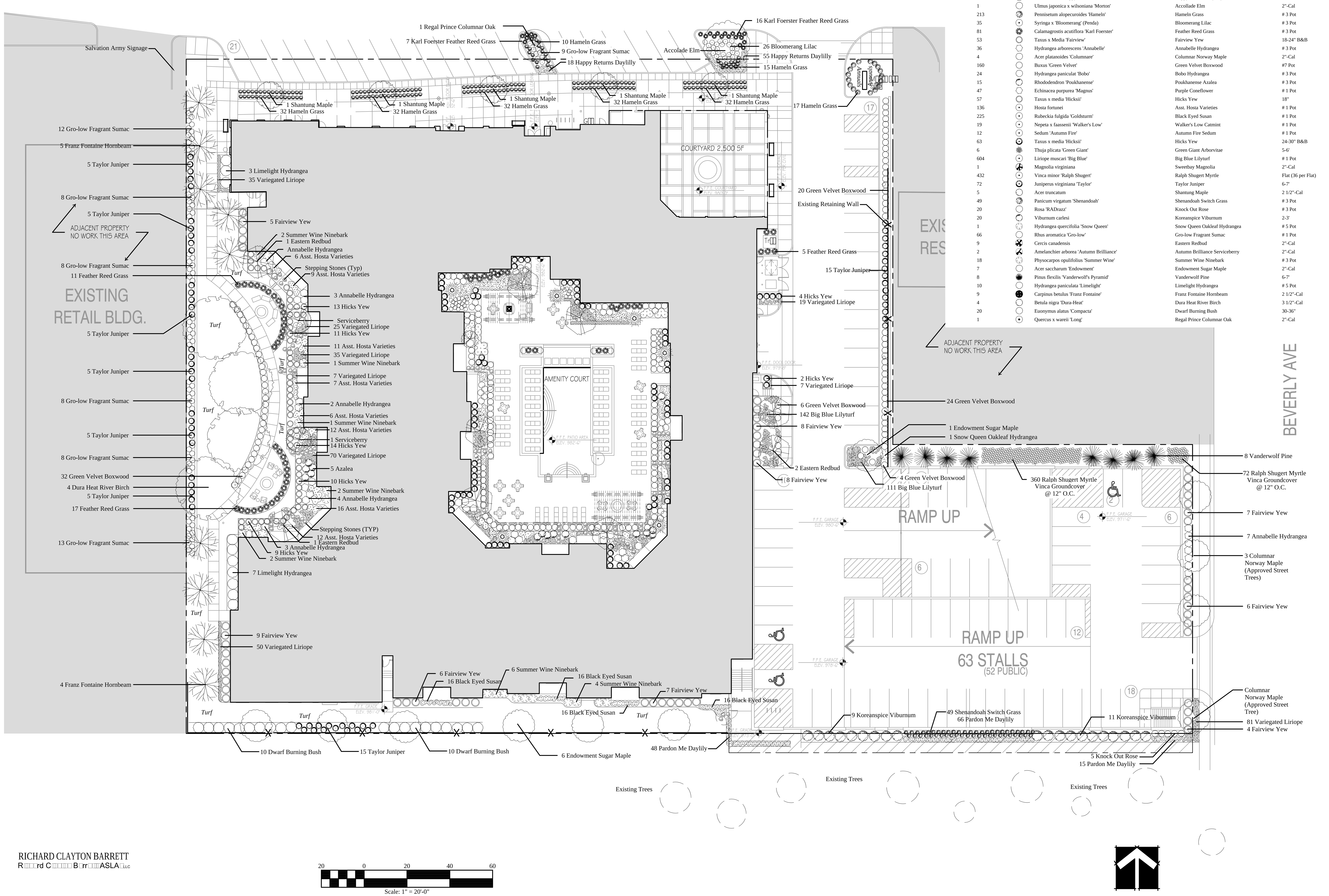
SHA ER KLINE ARREN INC.
CORPORATE AVE.
LENEXA KS
P
.SK INC.COM

drawing title

TURNING TEMPLATE

drawing number

C005



PLANT SCHEDULE

Quantity	Symbol	Scientific Name	Common Name	Planting Size
129		Hemerocallis 'Pardon Me'	Pardon Me Daylily	# 1 Pot
587		Liriope muscari 'Variegata'	Variegated Liriope	# 1 Pot
73		Hemerocallis 'Happy Returns'	Happy Returns Daylilly	# 1 Pot
1		Ulmus japonica x wilsoniana 'Morton'	Accollade Elm	2"-Cal
213		Pennisetum alopecuroides 'Hameln'	Hameln Grass	# 3 Pot
35		Syringa x 'Bloomerang' (Penda)	Bloomerang Lilac	# 3 Pot
81		Calamagrostis acutiflora 'Karl Foerster'	Feather Reed Grass	# 3 Pot
53		Taxus x Media 'Fairview'	Fairview Yew	18-24" B&B
36		Hydrangea arborescens 'Annabelle'	Annabelle Hydrangea	# 3 Pot
4		Acer platanoides 'Columnare'	Columnar Norway Maple	2"-Cal
160		Buxus 'Green Velvet'	Green Velvet Boxwood	#7 Pot
24		Hydrangea paniculat 'Bobo'	Bobo Hydrangea	# 3 Pot
15		Rhododendron 'Poukhanense'	Poukhanense Azalea	# 3 Pot
47		Echinacea purpurea 'Magnus'	Purple Coneflower	# 1 Pot
57		Taxus x media 'Hicksii'	Hicks Yew	18"
136		Hosta fortunei	Asst. Hosta Varieties	# 1 Pot
225		Rubeckia fulgida 'Goldsturm'	Black Eyed Susan	# 1 Pot
19		Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint	# 1 Pot
12		Sedum 'Autumn Fire'	Autumn Fire Sedum	# 1 Pot
63		Taxus x media 'Hicksii'	Hicks Yew	24-30" B&B
6		Thuja plicata 'Green Giant'	Green Giant Arborvitae	5-6'
604		Liriope muscari 'Big Blue'	Big Blue Lilyturf	# 1 Pot
1		Magnolia virginiana	Sweetbay Magnolia	2"-Cal
432		Vinca minor 'Ralph Shugert'	Ralph Shugert Myrtle	Flat (36 per Flat)
72		Juniperus virginiana 'Taylor'	Taylor Juniper	6-7'
5		Acer truncatum	Shantung Maple	2 1/2"-Cal
49		Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	# 3 Pot
20		Rosa 'RADrazz'	Knock Out Rose	# 3 Pot
20		Viburnum carlesi	Koreanspice Viburnum	2-3'
1		Hydrangea quercifolia 'Snow Queen'	Snow Queen Oakleaf Hydrangea	# 5 Pot
66		Rhus aromatica 'Gro-low'	Gro-low Fragrant Sumac	# 1 Pot
9		Cercis canadensis	Eastern Redbud	2"-Cal
2		Amelanchier arborea 'Autumn Brilliance'	Autumn Brilliance Serviceberry	2"-Cal
18		Physocarpos opulifolius 'Summer Wine'	Summer Wine Ninebark	# 3 Pot
7		Acer saccharum 'Endowment'	Endowment Sugar Maple	2"-Cal
8		Pinus flexilis 'Vanderwolf's Pyramid'	Vanderwolf Pine	6-7'
10		Hydrangea paniculata 'Limelight'	Limelight Hydrangea	# 5 Pot
9		Carpinus betulus 'Franz Fontaine'	Franz Fontaine Hornbeam	2 1/2"-Cal
4		Betula nigra 'Dura-Heat'	Dura Heat River Birch	3 1/2"-Cal
20		Euonymus alatus 'Compacta'	Dwarf Burning Bush	30-36"
1		Quercus x wareii 'Long'	Regal Prince Columnar Oak	2"-Cal

RICHARD CLAYTON BARRETT

20 0 20 40 60

Scale: 1" = 20'-0"

LANDSCAPE ARCHITECTURAL SITE PLAN

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projecttitle

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

projectnumber
17042.001

drawingissuance
FDP SUBMITTAL 07.17.17

drawingrevisions

No.	Description:	Date:
	Resubmittal	8/11/17
	Resubmittal	8/23/17

professionalseal

drawingtitle
LANDSCAPE PLAN

drawingnumber
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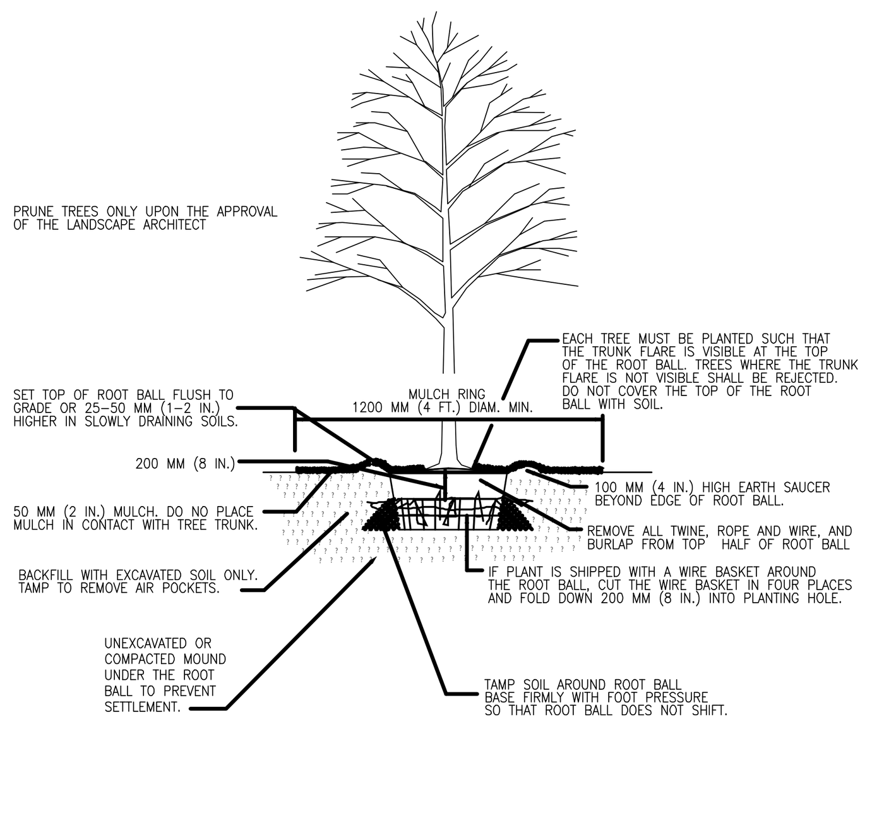
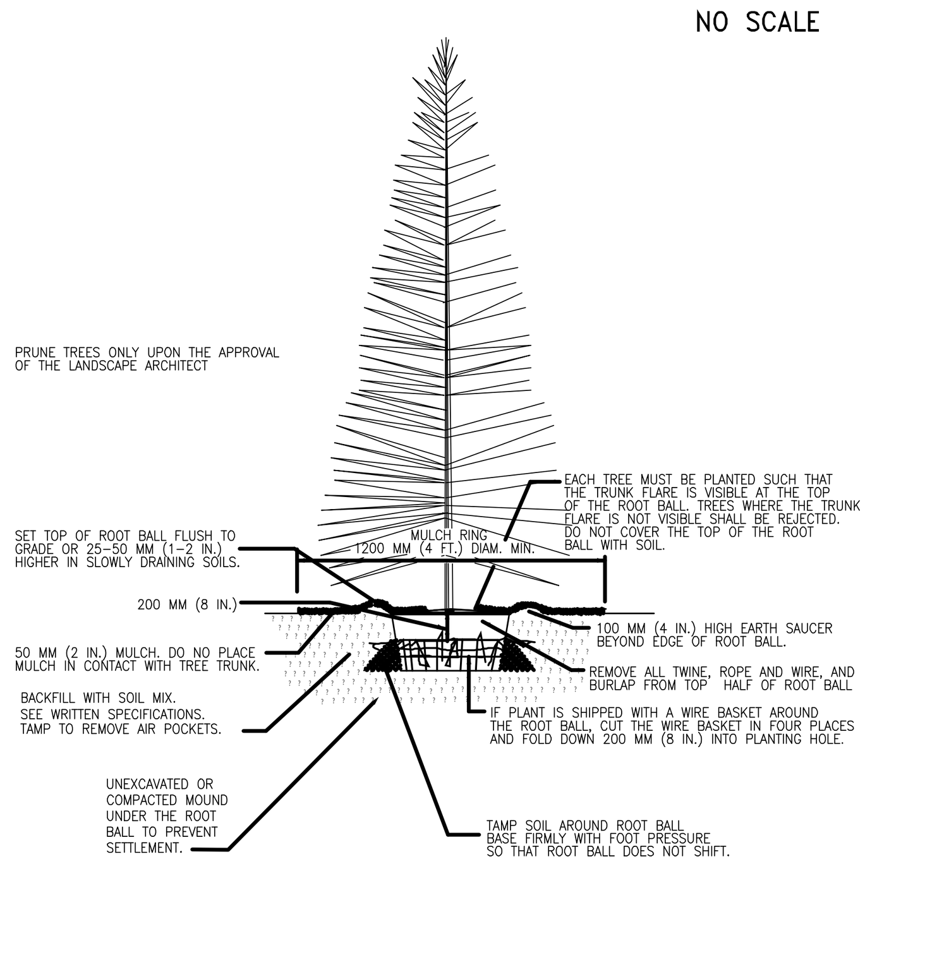


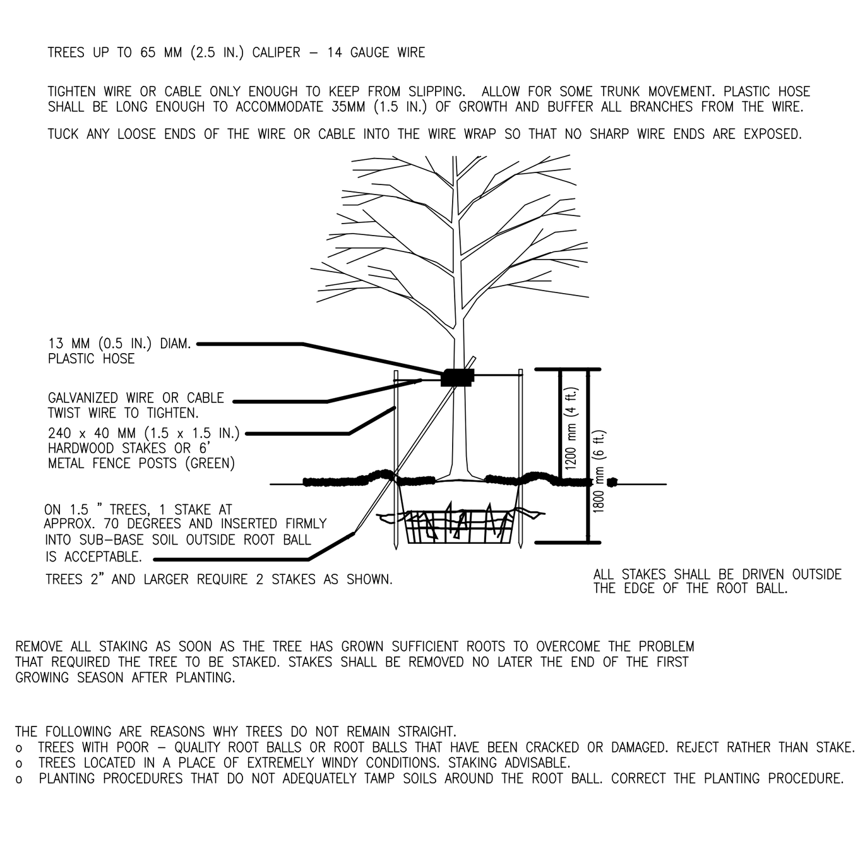
TREE PLANTING DETAIL – B&B TREES

NO SCALE

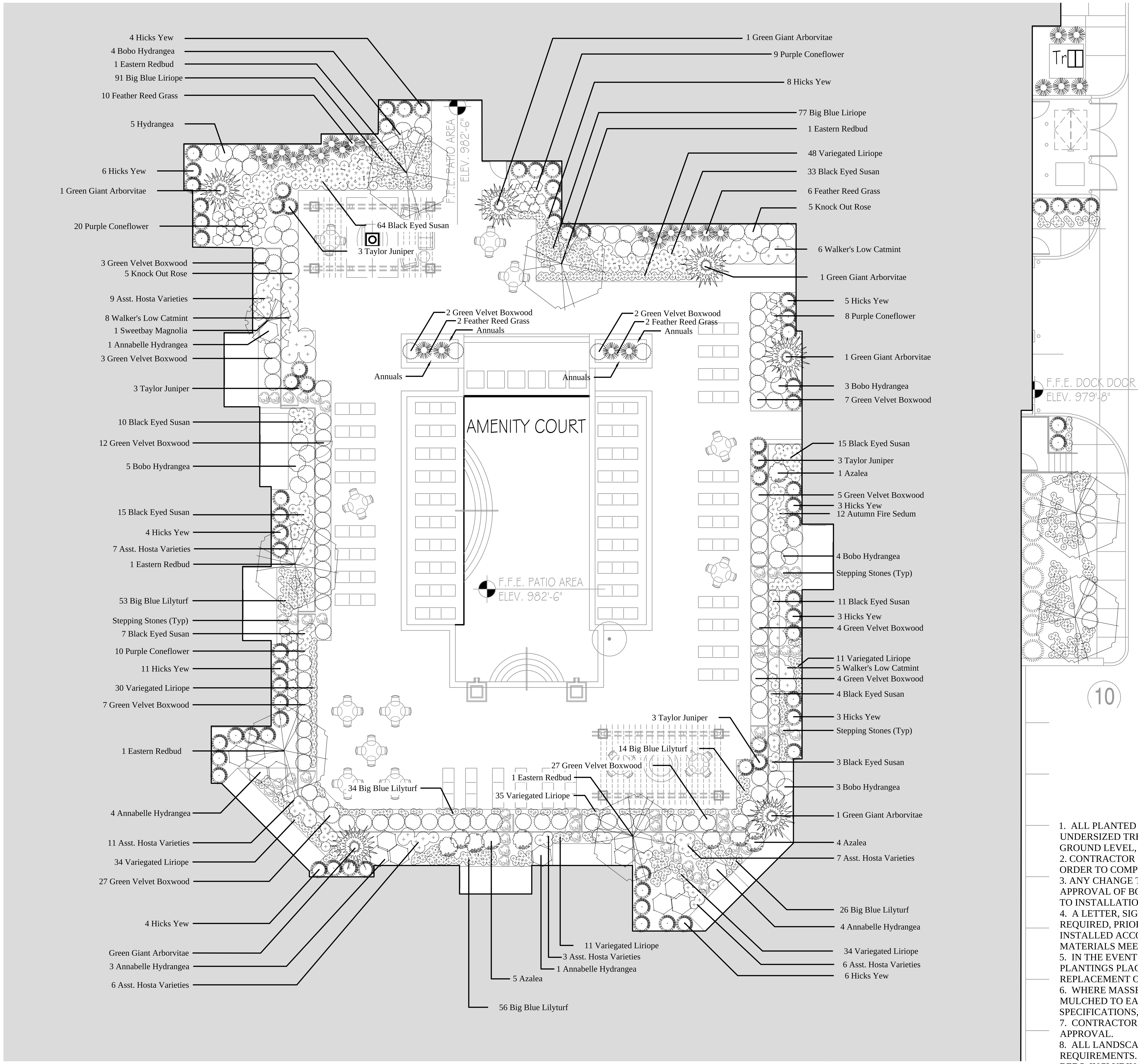


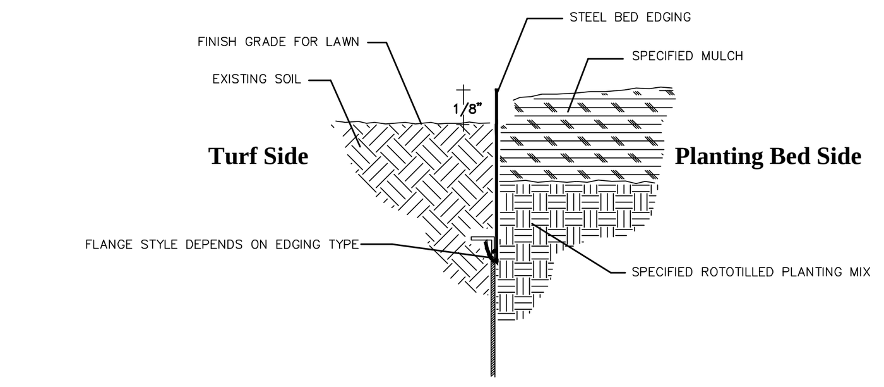
TREE PLANTING DETAIL – B&B EVERGREEN TREES

NO SCALE



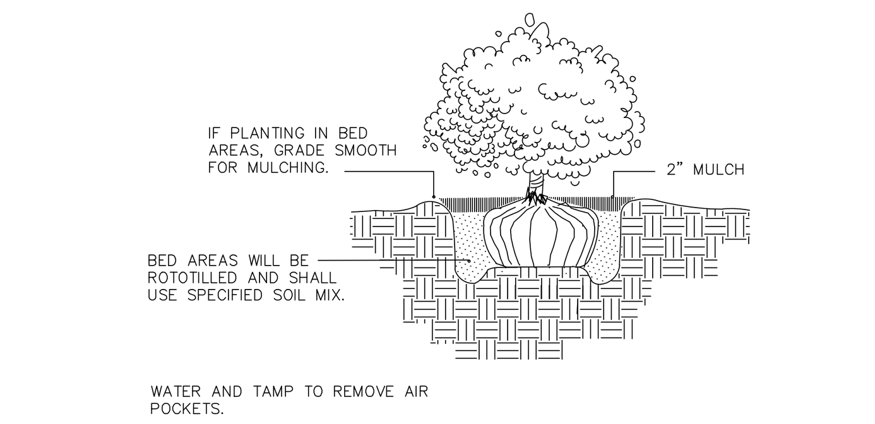
TREE STAKING DETAIL – TREES UP TO 3 INCH CALIPER





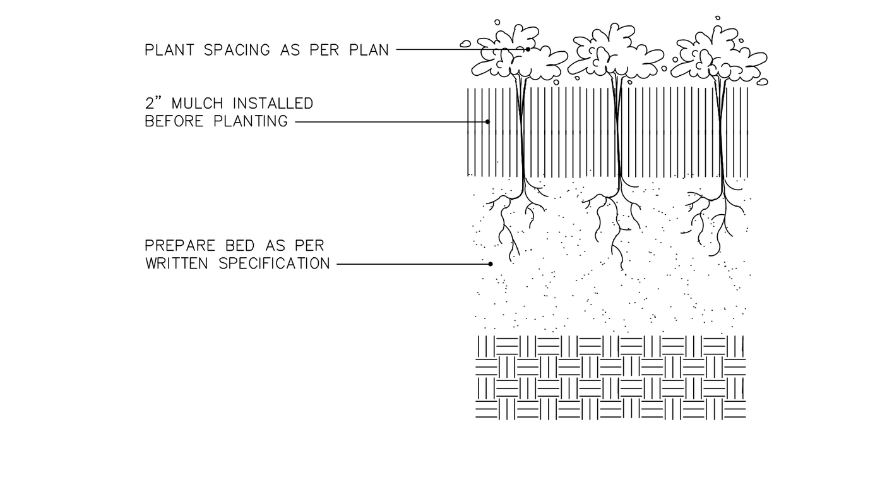
STEEL EDGING DETAIL

NO SCALE



SHRUB PLANTING

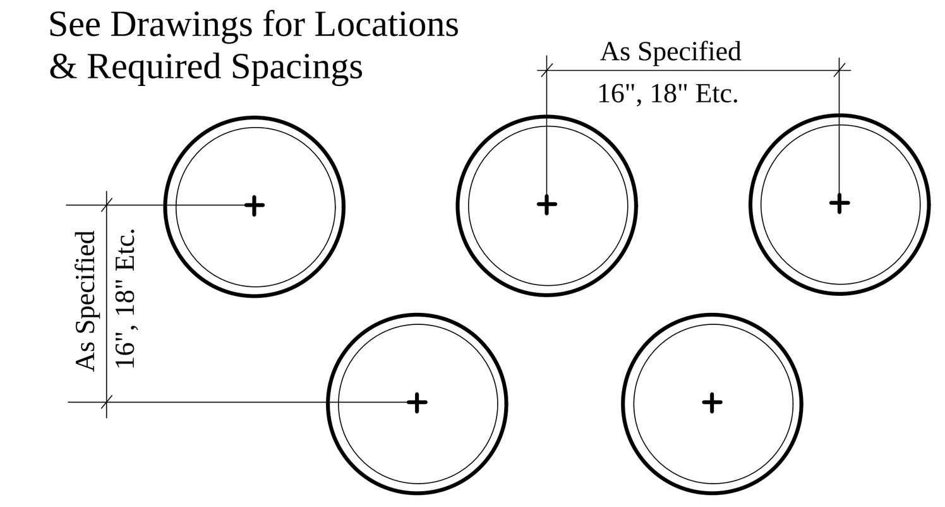
NO SCALE



GROUNDCOVER OR PERENNIAL PLANTING DETAIL

NO SCALE

See Drawings for Locations
& Required Spacings



GROUNDCOVER TRIANGULAR SPACING DETAIL

NO SCALE

GENERAL LANDSCAPE NOTES

1. ALL PLANTED TREES WILL BE CALIPERED BY THE LANDSCAPE ARCHITECT. UNDERSIZED TREES WILL BE REJECTED. TREES WILL BE CALIPERED AT 4" ABOVE GROUND LEVEL, AS PER ANSI Z60.1-2004 (ANLA STANDARD FOR NURSERY STOCK).
2. CONTRACTOR IS RESPONSIBLE FOR ALL INSPECTIONS, FEES, PERMITS ETC., IN ORDER TO COMPLETE THE PROPOSED WORK.
3. ANY CHANGE TO THE APPROVED LANDSCAPE PLAN SHALL REQUIRE THE WRITTEN APPROVAL OF BOTH THE LANDSCAPE ARCHITECT AND THE CITY OF MISSION, PRIOR TO INSTALLATION.
4. A LETTER, SIGNED AND SEALED BY THE LANDSCAPE ARCHITECT SHALL BE REQUIRED, PRIOR TO FINAL OCCUPANCY STATING THAT THE LANDSCAPE HAS BEEN INSTALLED ACCORDING TO THE APPROVED DRAWINGS, AND THAT ALL PLANT MATERIALS MEET ANSI CODE Z 60.1, STANDARDS FOR NURSERY STOCK.
5. IN THE EVENT OF WORK IN OR ON THE JCW SANITARY MAIN, ANY TREES OR PLANTINGS PLACED WITHIN THE SEWER EASEMENT MAY BE REMOVED WITHOUT REPLACEMENT OR COMPENSATION.
6. WHERE MASSES OF SHRUBS ARE PLACED TOGETHER, SUCH MASS BEDS SHOULD BE MULCHED TO EASE IN MAINTENANCE AND EDGED ACCORDING TO THE WRITTEN SPECIFICATIONS, IF NOT CALLED OUT ON DRAWING SPECIFICALLY.
7. CONTRACTOR TO STAKE ALL PLANT LOCATIONS, PRIOR TO INSTALLATION, FOR APPROVAL.
8. ALL LANDSCAPE AND TURF AREAS ARE TO BE IRRIGATED TO MEET CITY REQUIREMENTS. IRRIGATE TURF AREAS ON SEPARATE ZONES FROM LANDSCAPE BEDS, INCLUDING STREETSCAPE PLANTERS AND TREES.
9. ALL UTILITIES MUST BE LOCATED PRIOR TO ANY PLANTING OR GRADING. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IF DISCREPANCIES OCCUR.
10. ALL ISLANDS THAT ARE TO BE PLANTED MUST BE EXCAVATED TO 24" IN DEPTH (MINIMUM) AND FILLED WITH SPECIFIED PLANTING MIX. PLANTING ON OR IN ROCK RUBBLE OR COMPACTED SUBSOIL IS NOT ACCEPTABLE. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IF STANDING WATER IS PRESENT IN ANY LANDSCAPE PLANTING BED OR ISLAND.
11. ALL BEDS SHOWN TO BE DECORATIVE ROCK/FABRIC OR JAVA BROWN MULCH.

RICHARD CLAYTON BARRETT
Richard Clayton Barrett ASLA LLC

10 0 10 20 30

Scale: 1" = 10'-0"

LANDSCAPE ARCHITECTURAL COURTYARD PLAN

kloverarchitects
incorporated
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projecttitle

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

projectnumber
17042.001

drawingissuance
FDP SUBMITTAL 07.17.17

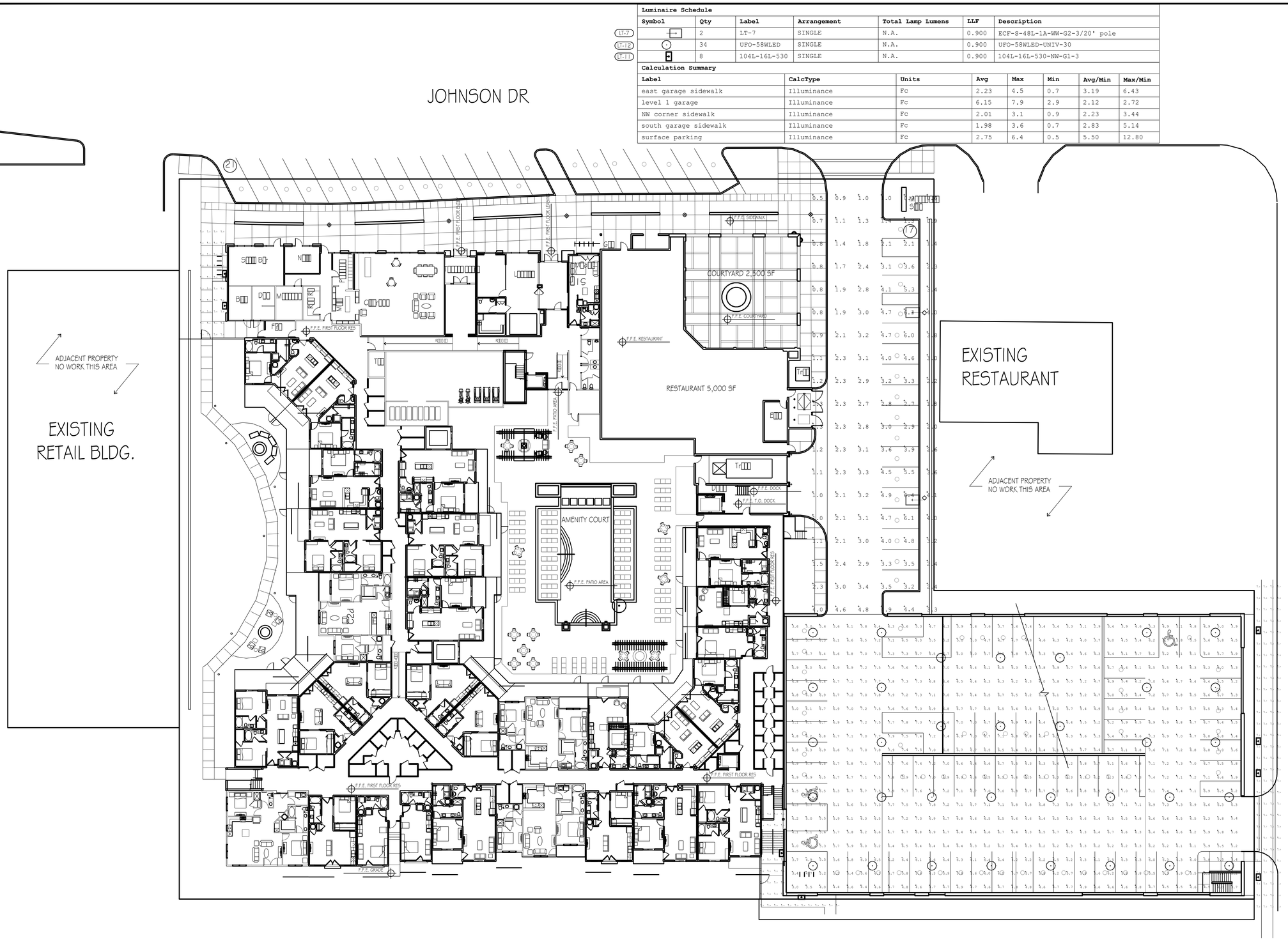
drawingrevisions

No.	Description:	Date:
	Resubmittal	8/23/17

professionalseal

drawingtitle
COURTYARD PLAN

drawingnumber



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
LT-7	2	LT-7	SINGLE	N.A.	0.900	ECF-S-48L-1A-WW-G2-3/20' pole
LT-12	34	UFO-58WLED	SINGLE	N.A.	0.900	UFO-58WLED-UNIV-30
LT-11	8	104L-16L-530	SINGLE	N.A.	0.900	104L-16L-530-NW-G1-3

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
east garage sidewalk	Illuminance	Fc	2.23	4.5	0.7	3.19	6.43
level 1 garage	Illuminance	Fc	6.15	7.9	2.9	2.12	2.72
NW corner sidewalk	Illuminance	Fc	2.01	3.1	0.9	2.23	3.44
south garage sidewalk	Illuminance	Fc	1.98	3.6	0.7	2.83	5.14
surface parking	Illuminance	Fc	2.75	6.4	0.5	5.50	12.80

PHOTOMETRIC PLAN

1

SCALE: 1" = 20'

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THIS DRAWING has been prepared by the Architect, or prepared under his direct supervision as an instrument of service and is intended for use only on this project. All Drawings, Specifications, ideas and designs, including the overall layout, form, arrangement, and composition of spaces and elements portrayed, constitute the original, unpublished Work of the Architect. Any reproduction, use, or disclosure of the information contained herein without the written consent of the Architect is strictly prohibited.

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projecttitle

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MISSION, KS

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drawingissuance

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drawingrevisions

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	RESUBMITTAL 08/23/17	

professionalseal

drawingtitle

PHOTOMETRIC PLAN

drawingnumber

00

JOHNSON DR

251'-2"

46'-8 1/2" RETAIL | 116'-11 1/2" LEASING / CLUBHOUSE | 87'-6" RESTAURANT / REATIL

54'-1" LEASING OFFICE

PROPOSED NEW DIAGONAL STREET PARKING

PUBLIC BIKE RACKS, RING BOLLARD TYPE

PROPERTY LINE

RELOCATED STREET LIGHTS, TYP.

BENCHES AND TRASH CANS PER CUT SHEETS, TYP.

STAINED COLORED CONCRETE PATTERN

ADJACENT PROPERTY NO WORK THIS AREA

EXISTING RETAIL BLDG.

EXISTING RESTAURANT

5' PICKET FENCE PER CUT SHEET

COURTYARD 2,500 SF

RESTAURANT 5,000 SF

AMENITY COURT

FINAL COURTYARD AMENITY AREA TYPES TO BE DETERMINED AT LATER DATE, TYP.

FINAL COURTYARD DESIGN TO BE DETERMINED AT LATER DATE

FENCE

LIT PEDESTRIAN BOLLARDS, LT-8, TYP.

TREES TO BE UP LIT WITH LT-6, TYP.

272'-2"

PUBLIC RESERVED STALLS

POLE LIGHTS

18'-0" | 10'-9" | 27'-0"

24'-0" | 16'-0"

201'-2"

289'-6"

123'-6"

RAMP UP

RAMP UP

63 STALLS (52 PUBLIC)

GATED ACCESS TO RESIDENTIAL PARKING LEVELS.

OPEN AIR OR CONDITIONED CORRIDOR, TBD AT LATER DATE

115'-0" | 24'-0" | 24'-0" | 18'-0"

199'-0"

120'-10"

243'-5"

445'-1"

EXISTING FENCE TO REMAIN

5' PICKET FENCE PER CUT SHEET

PUBLIC BIKE RACKS, GRID TYPE BOLTED TO SLAB

LT-6 GROUND LIGHT UP-LIGHTING

PROPOSED OPEN AIR EASEMENT

BEVERLY AVE

F.F.E. FIRST FLOOR RES ELEV. 954'-0"

F.F.E. FIRST FLOOR RES ELEV. 982'-6"

F.F.E. FIRST FLOOR RES ELEV. 981'-0"

F.F.E. SIDEWALK ELEV. PER CIVIL

F.F.E. COURTYARD ELEV. 980'-0"

F.F.E. RESTAURANT ELEV. 980'-0"

F.F.E. PATIO AREA ELEV. 982'-6"

F.F.E. DOCK ELEV. 980'-0"

F.F.E. T.O. DOCK ELEV. 983'-0"

F.F.E. DOCK DOOR ELEV. 979'-8"

F.F.E. GARAGE ELEV. 980'-6"

F.F.E. GARAGE ELEV. 971'-6"

F.F.E. GARAGE ELEV. 978'-6"

F.F.E. FIRST FLOOR RES ELEV. 983'-0"

F.F.E. FIRST FLOOR RES ELEV. 983'-0"

F.F.E. GRADE ELEV. 981'-0"

F.F.E. GRADE ELEV. 973'-6"

JOHNSON DRIVE RETAIL STREET FRONTAGE

WEST RETAIL SHOPS:	46'-8 1/2" L.F.
EAST RESTAURANT / RETAIL:	87'-6" L.F.
OVERALL JOHNSON DRIVE FRONTAGE:	251'-2" L.F.
RETAIL % ALONG JOHNSON DRIVE:	53.4%
WEST RETAIL SHOPS:	46'-8 1/2" L.F.
EAST RESTAURANT / RETAIL:	87'-6" L.F.
LEASING OFFICE:	54'-1" L.F.
OVERALL JOHNSON DRIVE FRONTAGE:	251'-2" L.F.
RETAIL % ALONG JOHNSON DRIVE INCL. LEASING OFFICE:	74.9%

PARKING:

REQUIRED:

RESIDENTIAL: 1 PER BEDROOM + 1.5 PER 2 BEDROOMS:	217 STALLS
COMMERCIAL: 10 PER 1,000 SF:	65 STALLS
TOTAL REQUIRED:	282 STALLS

PROVIDED PARKING:

PARKING GARAGE:	285 STALLS
SURFACE PARKING:	16 STALLS
DIAGONAL ON-STREET PARKING:	21 STALLS
TOTAL PROVIDED:	322 STALLS

FLOOR AREA SUMMARY

FIRST FLOOR BUILDING AREA:	45,310 SF
SECOND FLOOR BUILDING AREA:	44,187 SF
THIRD FLOOR BUILDING AREA:	45,557 SF
FOURTH FLOOR BUILDING AREA:	45,557 SF
FIFTH FLOOR BUILDING AREA:	43,042 SF
TOTAL BUILDING AREA:	223,653 SF

FIRST FLOOR PLAN 1

SCALE: 1" = 20'

klover architects incorporated
10955 LOWELL AVENUE, SUITE 700 • OVERLAND PARK, KS 66210
ph: 913.649.8181 • fx: 913.649.1275 • www.klover.net

project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
FDP SUBMITTAL 07.17.17

drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL FLOOR PLAN

drawing number
A□□0

JOHNSON DR

RETAIL ENTRANCES

ADJACENT PROPERTY
NO WORK THIS AREA

EXISTING
RETAIL BLDG.

PROPERTY LINE

COURTYARD 2,500 SF

RESTAURANT 5,000 SF

AMENITY COURT

PROPERTY LINE

EXISTING
RESTAURANT

ADJACENT PROPERTY
NO WORK THIS AREA

PUBLIC RESERVED STALLS

BEVERLY AVE

PROPERTY LINE

RAMP UP

RAMP UP
63 STALLS
(52 PUBLIC)

PROPERTY LINE

PROPERTY LINE

PROPOSED OPEN AIR EASEMENT

ACCESS TO SYLVESTER POWELL COMMUNITY CENTER

BUILDING CIRCULATION

INTERNAL SITE CIRCULATION

PUBLIC / RIGHT OF WAY CIRCULATION

PEDESTRIAN CIRCULATION PLAN

SCALE: 1" = 20'

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JOHNSON DRIVE
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project number
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drawing issuance
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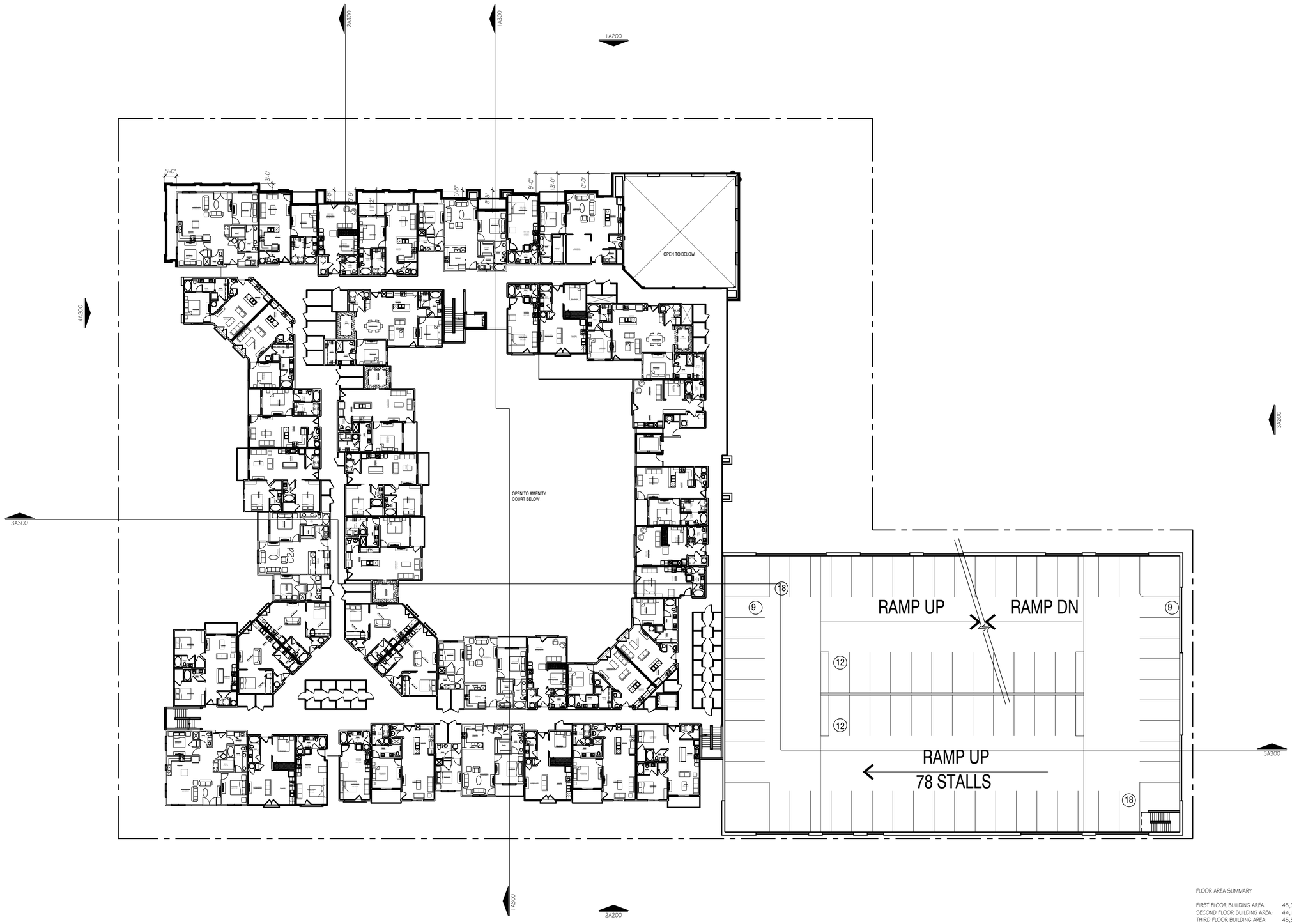
drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL
CIRCULATION PLAN

drawing number
A



FLOOR AREA SUMMARY

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SECOND FLOOR BUILDING AREA:	44,187 SF
THIRD FLOOR BUILDING AREA:	45,557 SF
FOURTH FLOOR BUILDING AREA:	45,557 SF
FIFTH FLOOR BUILDING AREA:	43,042 SF
TOTAL BUILDING AREA:	223,653 SF

SECOND FLOOR PLAN (1)
SCALE: 1" = 20'

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project title

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JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance

FDP SUBMITTAL	07.17.17

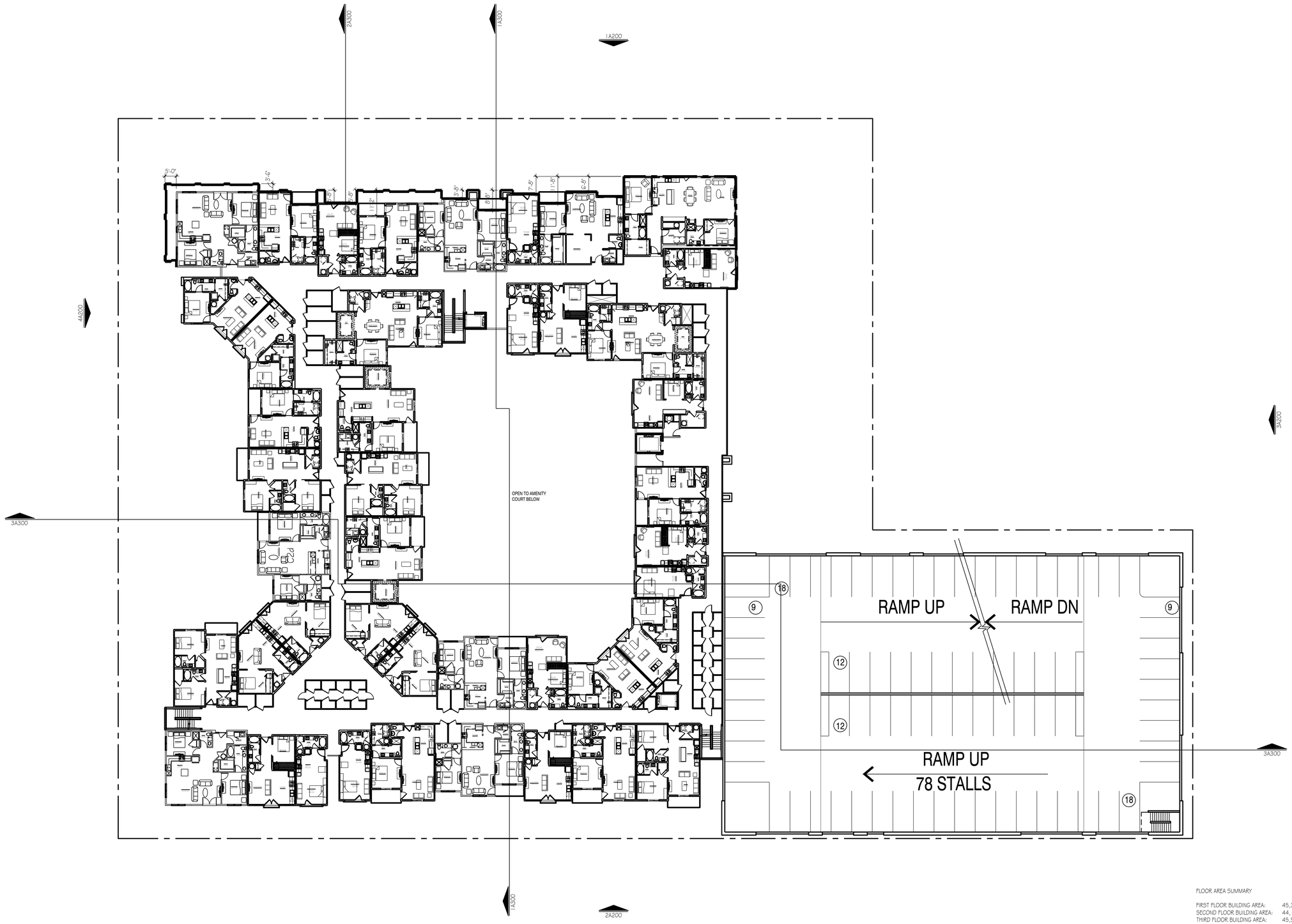
drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL
FLOOR PLAN

drawing number
A 1 0



FLOOR AREA SUMMARY

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THIRD FLOOR BUILDING AREA:	45,557 SF
FOURTH FLOOR BUILDING AREA:	45,557 SF
FIFTH FLOOR BUILDING AREA:	43,042 SF
TOTAL BUILDING AREA:	223,653 SF

THIRD FLOOR PLAN (1)
SCALE: 1" = 20'

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project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance

FDP SUBMITTAL	07.17.17

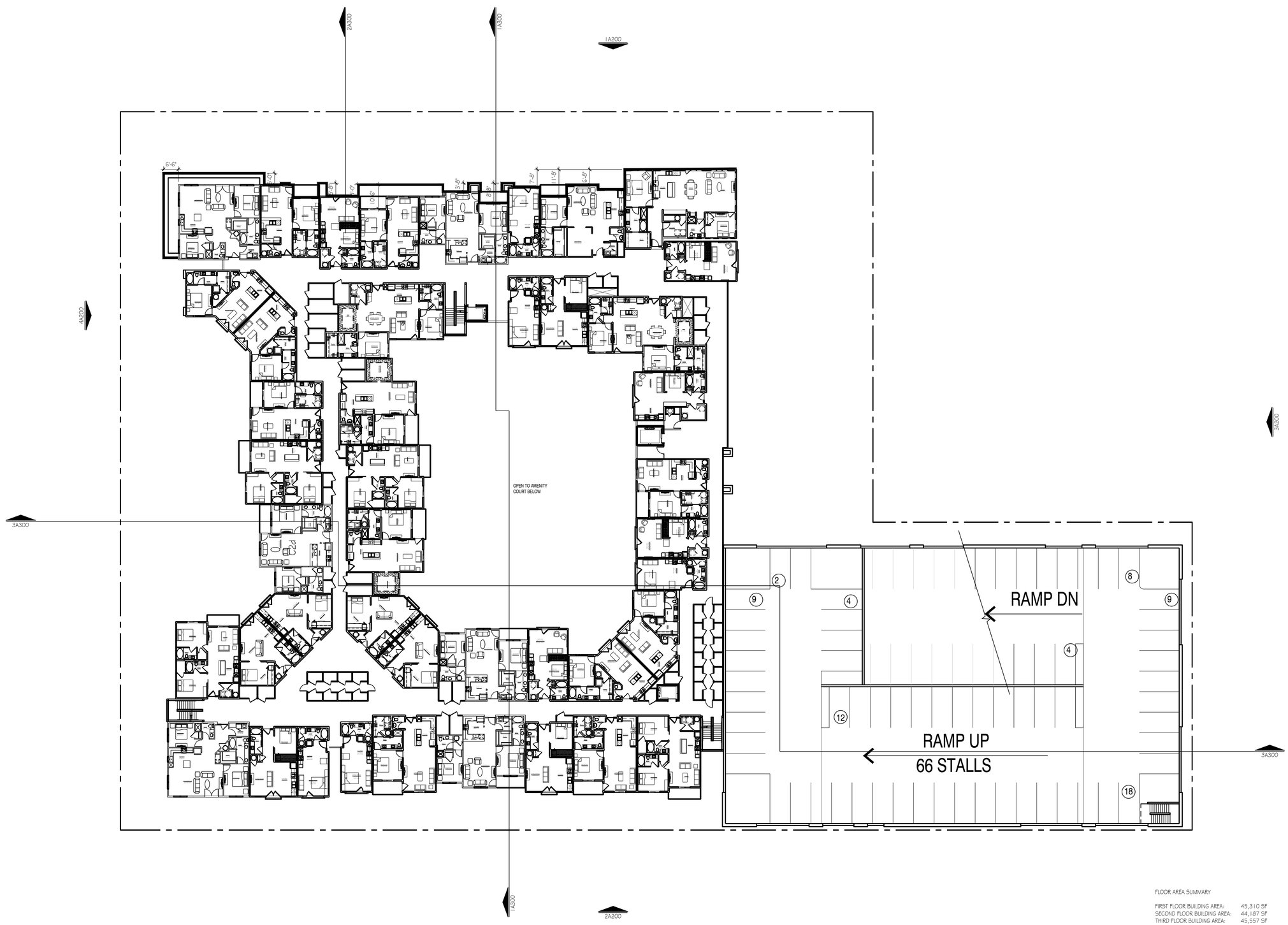
drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL
FLOOR PLAN

drawing number
A130



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THIRD FLOOR BUILDING AREA:	45,557 SF
FOURTH FLOOR BUILDING AREA:	45,557 SF
FIFTH FLOOR BUILDING AREA:	43,042 SF
TOTAL BUILDING AREA:	223,653 SF

FOURTH FLOOR PLAN 1

SCALE: 1" = 20'

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project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
FDP SUBMITTAL 07.17.17

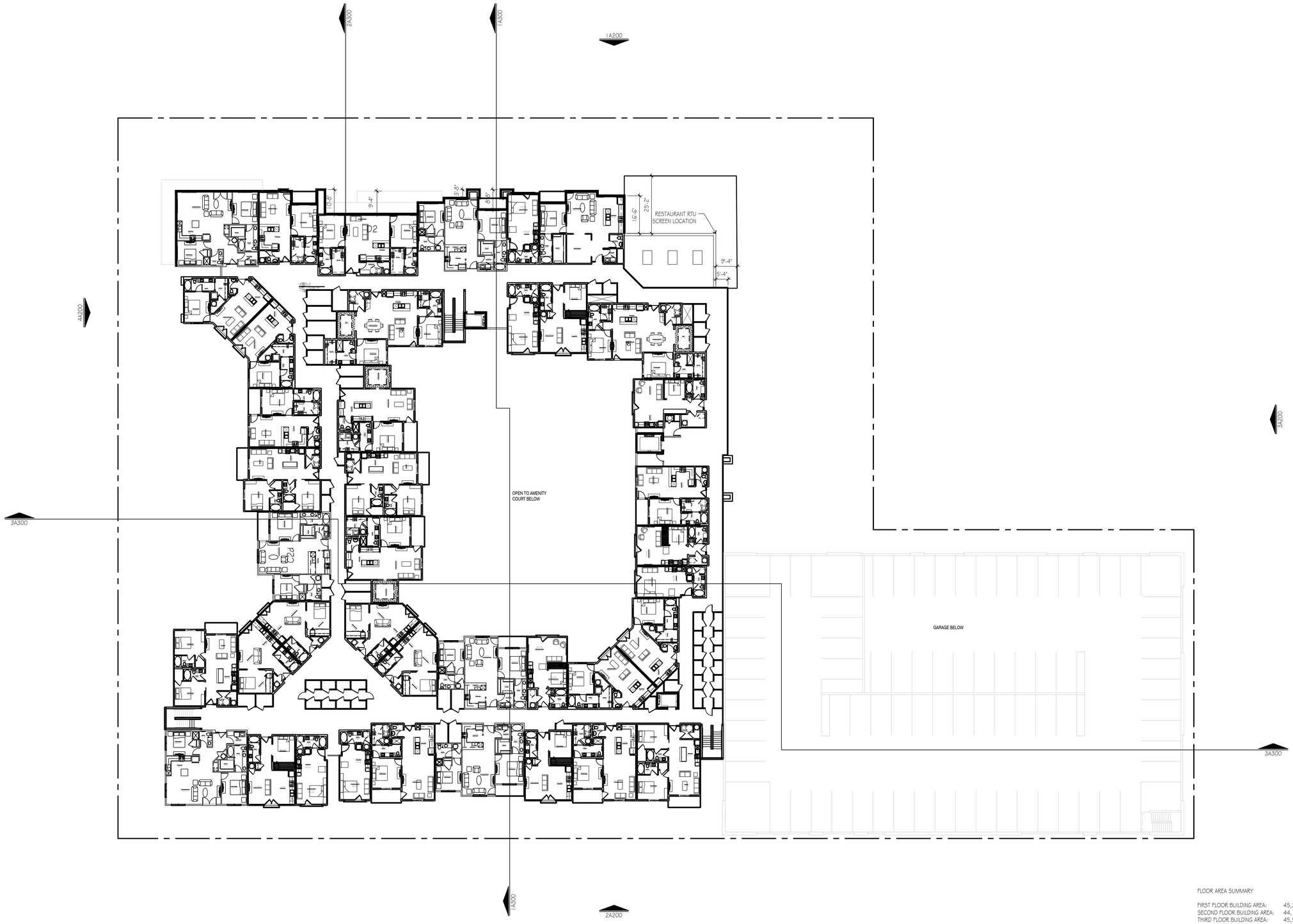
drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL
FLOOR PLAN

drawing number
A 1 0



FLOOR AREA SUMMARY

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THIRD FLOOR BUILDING AREA:	45,557 SF
FOURTH FLOOR BUILDING AREA:	45,557 SF
FIFTH FLOOR BUILDING AREA:	43,042 SF
TOTAL BUILDING AREA:	223,653 SF

FIFTH FLOOR PLAN

SCALE: 1" = 20'

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project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
FDP SUBMITTAL 07.17.17

drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL
FLOOR PLAN

drawing number
A 1 0

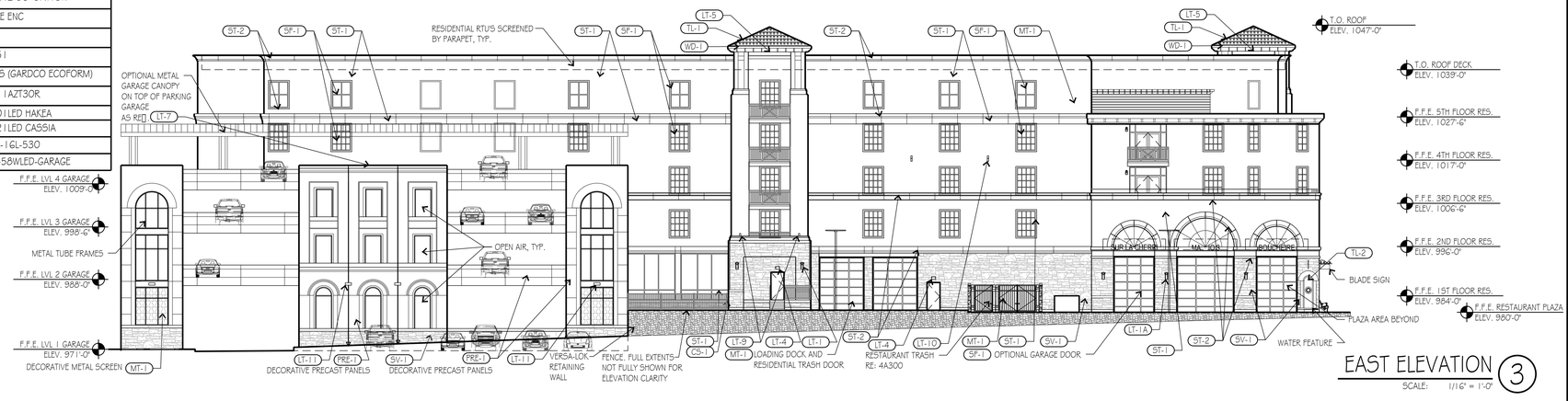
FINISH SCHEDULE

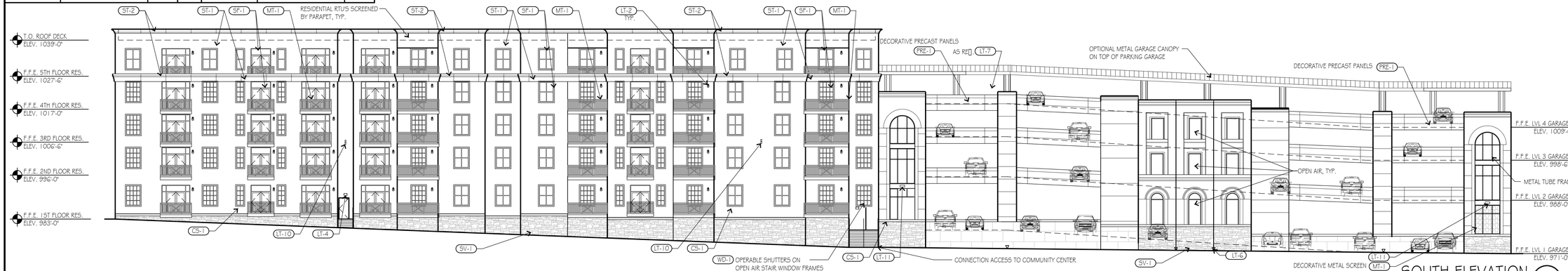
FINAL MATERIAL COLORS AND TEXTURES TO BE DECIDED AT TIME OF FACADE MOCK-UP BY OWNER AND CITY

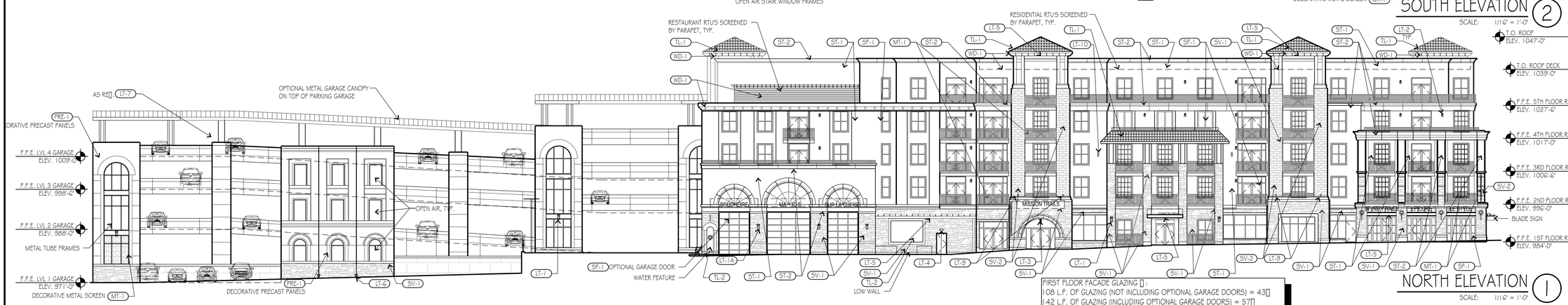
SYMBOL	MATERIAL	MANUFACTURER	COLOR	TEXTURE / FINISH
CS-1	CAST STONE	MIDWEST CAST STONE	25 AC	SANDBLAST
ST-1	STUCCO	DRYVIT - ACRYLIC FINISH	OYSTER SHELL #456	FREESTYLE
ST-2	STUCCO	DRYVIT - ACRYLIC FINISH	ALMOND #462	FREESTYLE
MT-1	ALUMINUM	KAWNEER	DARK BRONZE	CLEAR
PRE-1	PRECAST PANEL	TBD	ACID WASH - LIMESTONE	ACID WASH
PT-1	PAINT	SHERWIN WILLIAMS	TO MATCH WD-1	TBD
SF-1	GLAZING	KAWNEER	CLEAR	MULLIONS TO MATCH MT-1
SV-1	STONE VENEER	NATURAL STONE VENEERS	BROOKWOOD / ASPEN	LOW PROFILE SPLIT FACE
SV-2	STONE VENEER	GLEN GERY - CREATIVE MINES	JUTE	CRAFT CHISELED RECTANGLE
WD-1	SYNTHETIC WOOD	FAUX WOOD BEAMS	WALNUT	WALNUT
TL-1	CONC. SPANISH ROOF TILE	BORAL	RUSTIC NEWPORT	RUSTIC NEWPORT
TL-2	MOSAIC SPANISH TILE	TBD	SPANISH PATTERNED	SMOOTH ACRYLIC FINISH
LT-1	WALL SCONCE	ELK LIGHTING	HAZELNUT BRONZE / AMBER	BURLINGTON JUNCTION 2-WAY
LT-1 OPT A	WALL SCONCE	HINKLEY LIGHTING	BRONZE	2579AR-LED
LT-2	WALL SCONCE	ACCLAIM LIGHTING	MATTE BLACK	2202BK
LT-3	HANGING LANTERN	SAVOY HOUSE LIGHTS	BRONZE	5-1242-56 -DAYTON
LT-4	WALL PACK	EATON	BRONZE	INVUE ENC
LT-5	DOWNLIGHT	CREE	BRONZE	SR6
LT-6	BULLET LIGHT	ORBIT INDUSTRIES INC	BRONZE	LB151
LT-7	SITE AREA LIGHT	PHILLIPS	BRONZE	ECF-S (GARDCO ECOFORM)
LT-8	LANDSCAPE BOLLARD	KICHLER	BRONZE	15811AZT30R
LT-9	UP LIGHT	LUMASCAPE	BLACK POWDER COAT	LS201LED HAKEA
LT-10	UP DOWN LIGHT	LUMASCAPE	BLACK POWDER COAT	LS121LED CASSIA
LT-11	WALL SCONCE	PHILLIPS - GARDCO	BRONZE	104L-1GL-530
LT-12	GARAGE LIGHT	ILP	BRONZE	UFO-58WLED-GARAGE

FACADE MATERIAL

NORTH	14,331 SF			SOUTH	16,479 SF	
GLAZING	3,272 SF	22.8%		GLAZING	4,636 SF	28.1%
MASONRY	2,641 SF	18.4%		MASONRY	1,363 SF	8.2%
STUCCO / METAL	8,418 SF	58.8%		STUCCO / METAL	10,480 SF	63.7%
EAST	13,100 SF			WEST	14,331 SF	
GLAZING	2,408 SF	18.4%		GLAZING	4,702 SF	32.8%
MASONRY	1,045 SF	8%		MASONRY	1,043 SF	7.2%
STUCCO / METAL	9,647 SF	73.6%		STUCCO / METAL	11,473 SF	80%







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project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
FDP SUBMITTAL 07.17.17

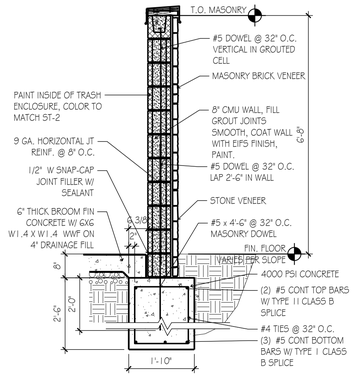
drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

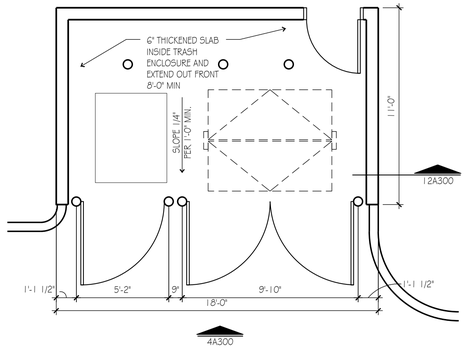
drawing title
ARCHITECTURAL ELEVATIONS

drawing number
A□00



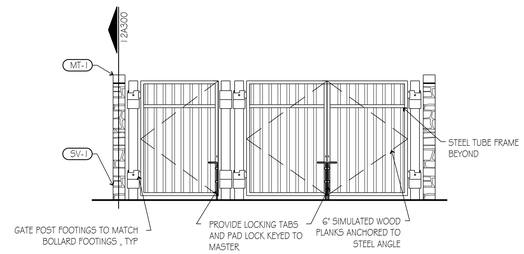
TRASH ENCLOSURE SECTION (12)

SCALE: 1/2" = 1'-0"



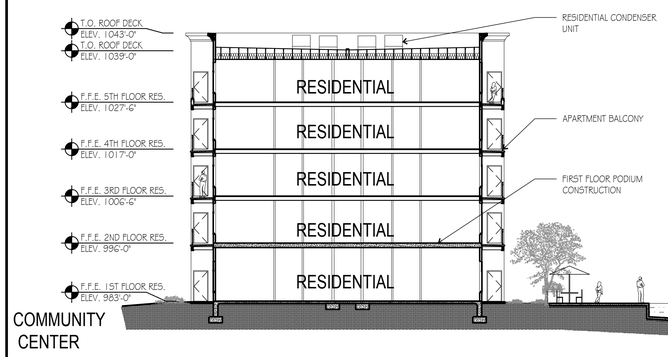
TRASH ENCLOSURE ENLARGED PLAN (8)

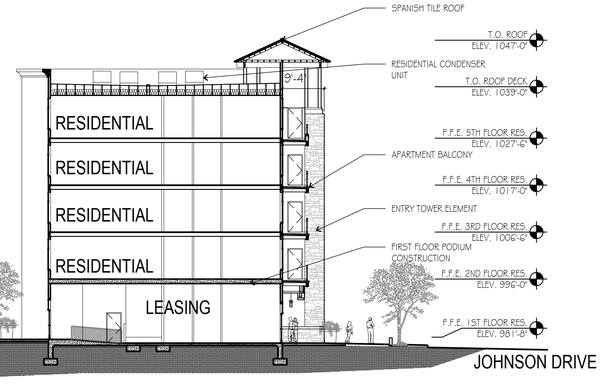
SCALE: 1/4" = 1'-0"



TRASH ENCLOSURE ENLARGED ELEVATION (4)

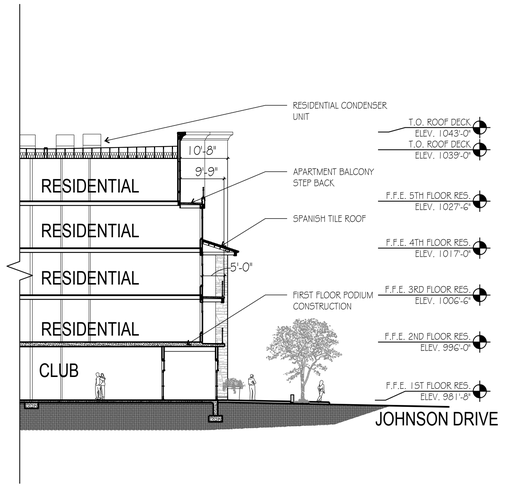
SCALE: 1/4" = 1'-0"





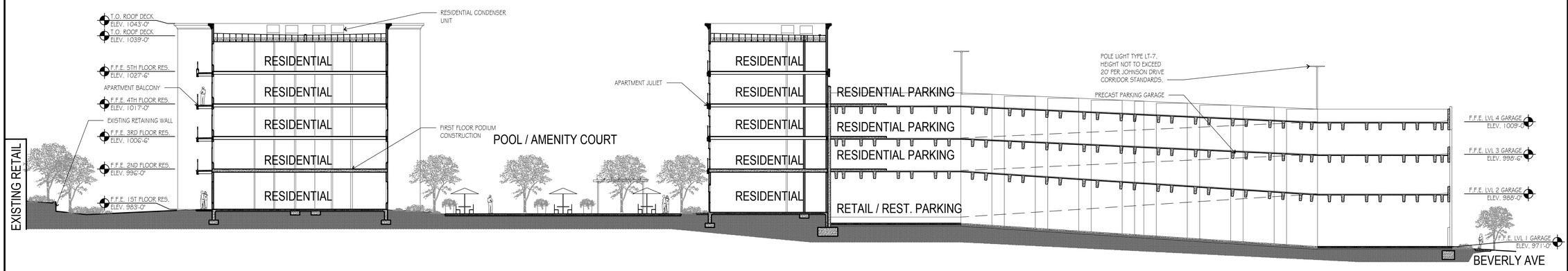
BUILDING SECTION (3)

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



BUILDING SECTION (2)

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



BUILDING SECTION (1)

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

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JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
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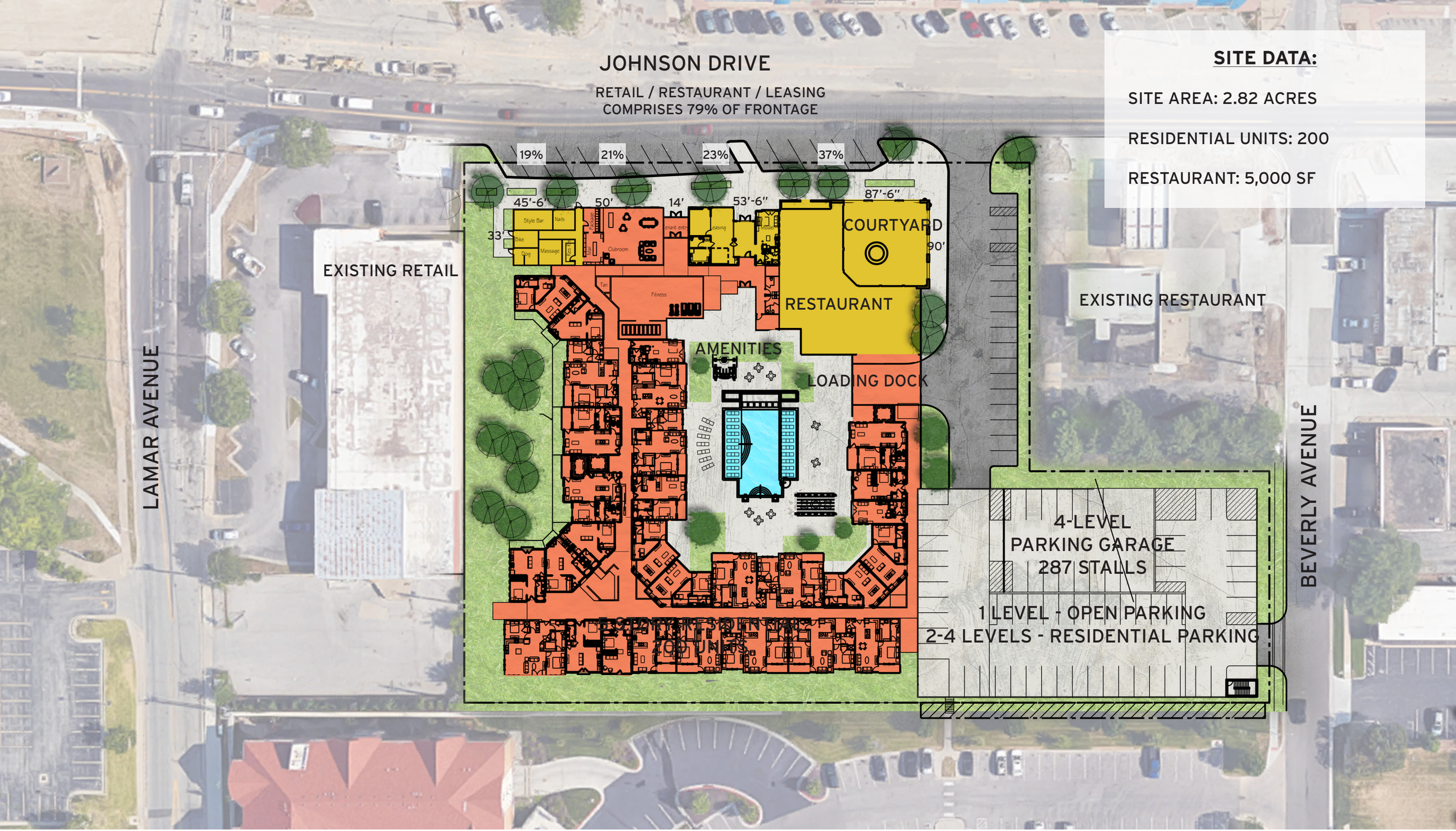
drawing revisions

No.	Description:	Date:
	RESUBMITTAL 08/23/17	

professional seal

drawing title
ARCHITECTURAL
BUILDING SECTIONS

drawing number
A300



SITE DATA:

SITE AREA: 2.82 ACRES

RESIDENTIAL UNITS: 200

RESTAURANT: 5,000 SF

COLORED SITE PLAN

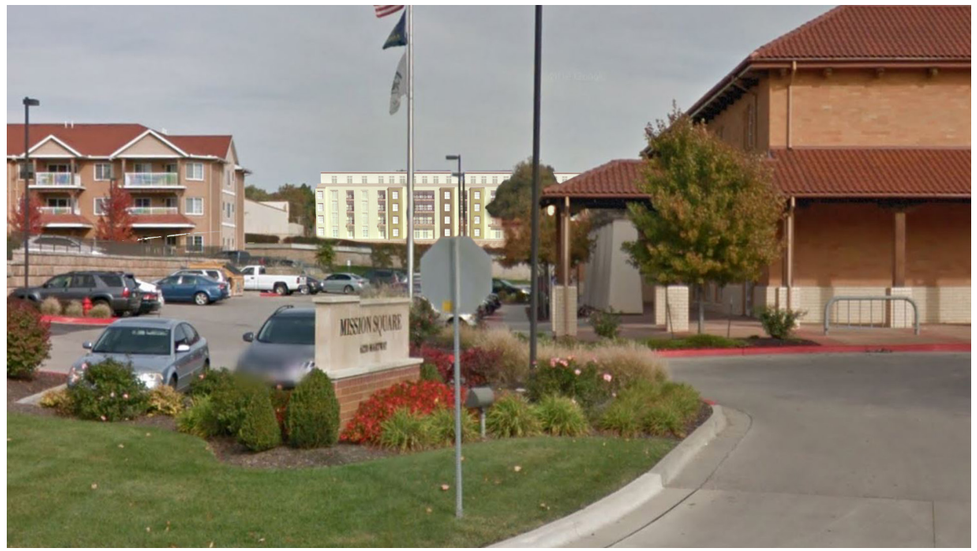
EPC REAL ESTATE	SCALE: 1:50	MISSION TRAILS	JOHNSON DR.	MISSION, KS	21 JUNE 2017


MISSION TRAILS
MISSION TRAILS
Infinity Nails
Epicure
le Style

VIEW 1


Mazzio's
boucherie
Mazzio's
Sur la Cherri'
MISSION TRAILS
MISSION TRAILS

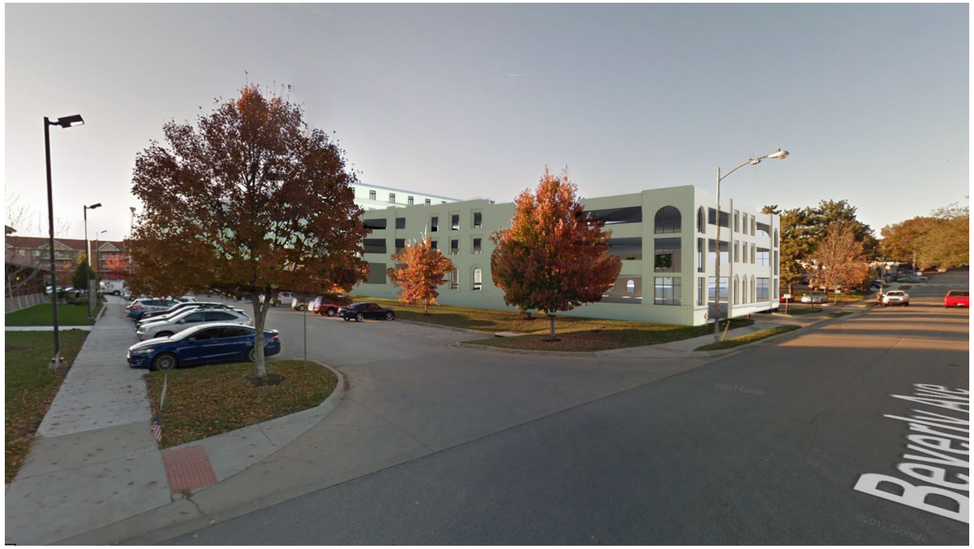
VIEW 2



VIEW FROM MARTWAY ST

VIEW FROM BEVERLY AVE LOOKING WEST

VIEW FROM LAMAR AVE



VIEW FROM BEVERLY AVE LOOKING NORTHWEST

REAR VIEW AERIAL IMAGE PROPOSED

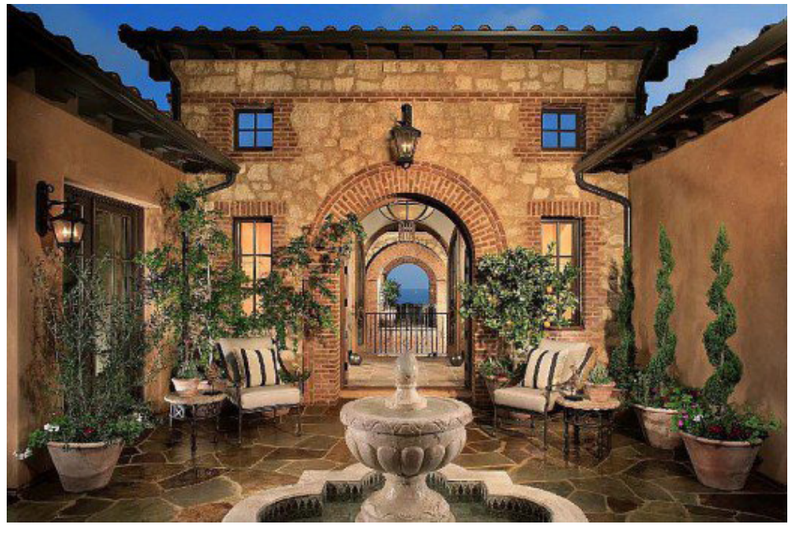
REAR VIEW AERIAL IMAGE EXISTING

EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

SOUTH ELEVATION



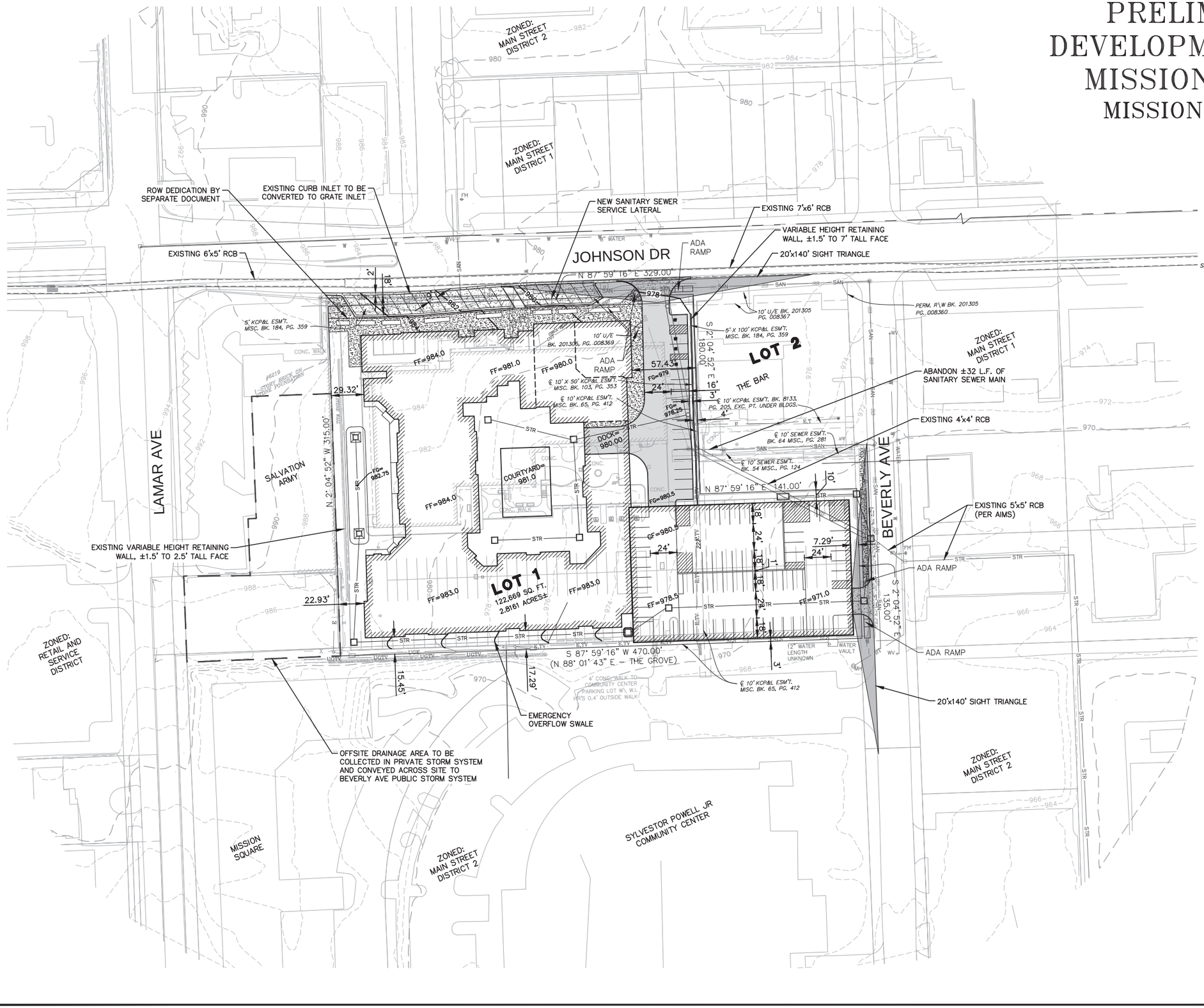
VISION IMAGES

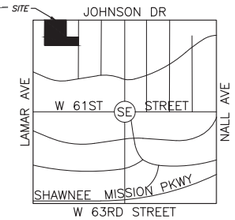
VISION IMAGES

VISION IMAGES

EVENING RENDERING

PRELIMINARY DEVELOPMENT PLAN
MISSION TRAILS
MISSION, KANSAS





VICINITY MAP
SEC. 8–12–25

SCALE: 1"=2000'

OWNER

6201 JOHNSON INC.
4520 MADISON AVE. APT. 300
KANSAS CITY, MO 64111
PHONE: (816) 268–2434

FLOOD NOTE:
THIS PROPERTY LIES WITHIN FLOOD ZONE X, DEFINED AS BEING OUTSIDE THE LIMITS OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT FEDERAL EMERGENCY MANAGEMENT AGENCY FOR JOHNSON COUNTY, KANSAS AND INCORPORATED AREAS, MAP NO. 20091C0023G, PANEL 23 OF 161 AND DATED AUGUST 3, 2009.

LEGAL DESCRIPTION:
PROPOSED LOT 1 OF DOWNTOWN MISSION, A SUBDIVISION IN THE NORTHWEST 1/4 OF THE SOUTHEAST QUARTER OF SECTION 8–12–25, IN THE CITY OF MISSION, JOHNSON COUNTY, KANSAS, CONTAINING 2.816 ACRES MORE OR LESS.

SCALE: 1"=40'
40 20 0 40

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project title

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance
PDP SUBMITTAL 04.10.17

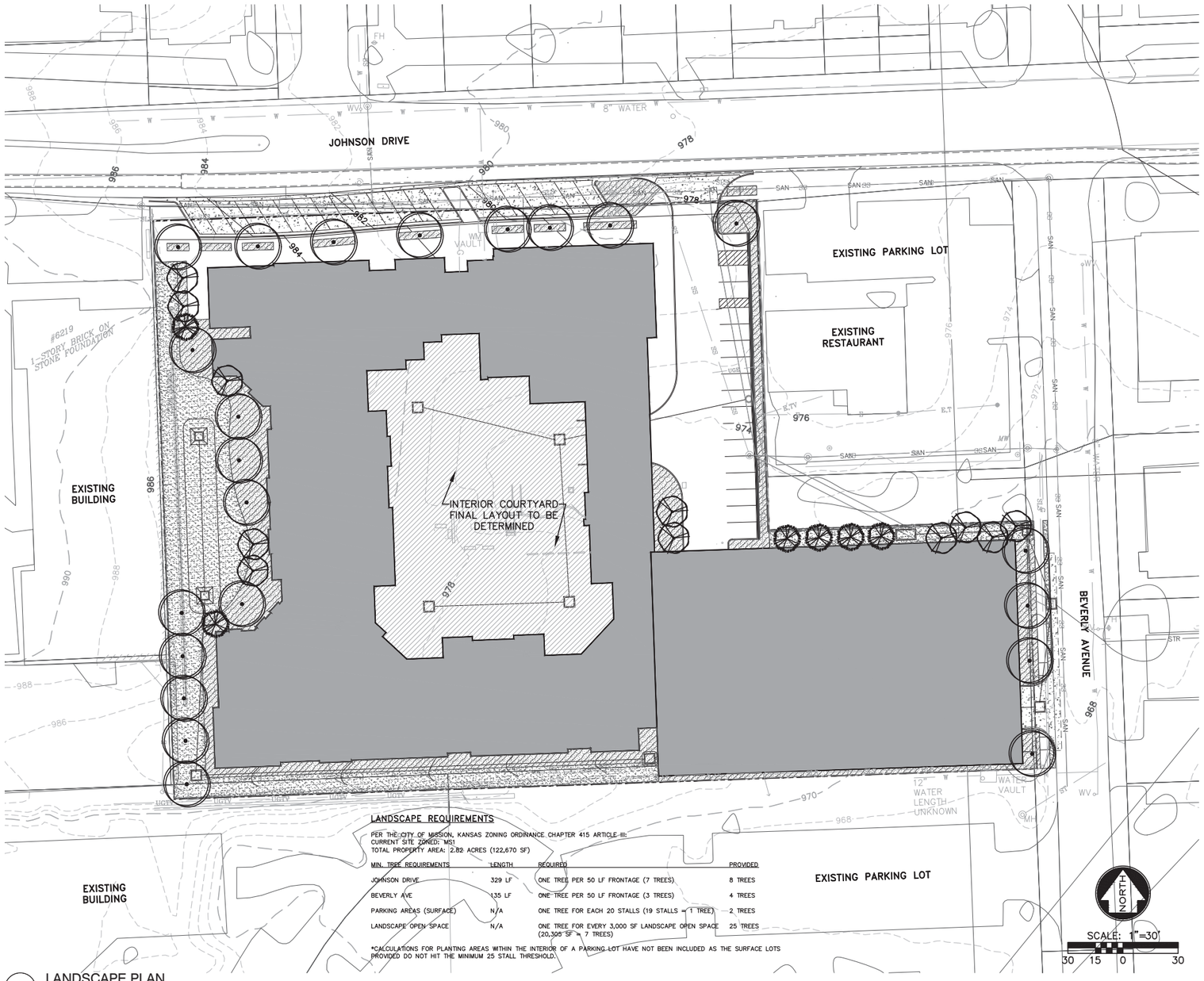
drawing revisions

No.	Description:	Date:
1	CITY COMMENTS	5/12/17

professional seal

drawing title
CIVIL
PRELIMINARY DEVELOPMENT PLAN

drawing number
C100



LANDSCAPE REQUIREMENTS

PER THE CITY OF MISSION, KANSAS ZONING ORDINANCE CHAPTER 415 ARTICLE 4B:
CURRENT SITE ZONED: "MS1
TOTAL PROPERTY AREA: 2.82 ACRES (122,670 SF)

MIN. TREE REQUIREMENTS	LENGTH	REQUIRED	PROVIDED
JOHNSON DRIVE	329 LF	ONE TREE PER 50 LF FRONTAGE (7 TREES)	8 TREES
BEVERLY AVE	135 LF	ONE TREE PER 50 LF FRONTAGE (3 TREES)	4 TREES
PARKING AREAS (SURFACE)	N/A	ONE TREE FOR EACH 20 STALLS (19 STALLS = 1 TREE)	2 TREES
LANDSCAPE OPEN SPACE	N/A	ONE TREE FOR EVERY 3,000 SF LANDSCAPE OPEN SPACE (20,305 SF = 7 TREES)	25 TREES

*CALCULATIONS FOR PLANTING AREAS WITHIN THE INTERIOR OF A PARKING LOT HAVE NOT BEEN INCLUDED AS THE SURFACE LOTS PROVIDED DO NOT HIT THE MINIMUM 25 STALL THRESHOLD.

1 LANDSCAPE PLAN
1" = 30'

LANDSCAPE PLAN NOTES:

1. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILTIES, IRRIGATION PIPING AND DRAINAGE STRUCTURES BEFORE COMMENCING WORK. INFORMATION SHOWN ON PLAN IS FROM AVAILABLE INFORMATION AND ALL LOCATIONS SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO ANY OF THE PREVIOUSLY LISTED ITEMS.

2. CONTRACTOR SHALL VERIFY ALL PLANT MATERIAL QUANTITIES PRIOR TO PLANTING. ANY DISCREPANCIES WITH THE PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE PLAN QUANTITIES SHALL SUPERCEDE SCHEDULED QUANTITIES

3. CONTRACTOR SHALL VERFIY ALL PLANT QUANTITIES SHOWN PRIOR TO PLANTING. QUANTITIES PROVIDED ARE FOR CONVENENCE ONLY AND CONTRACTOR IS RESPONISIBLE FOR VERIFYING AND INSTALLING THE QUANTITY OF PLANT MATERIALS SHOWN ON THE PLANS. ANY DESCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT. ALL PLANT MATERIAL TO BE SPACED AS SHOWN, UNLESS OTHERWISE NOTED.

4. LOCATION AND PLACEMENT OF ALL PLANT MATERIAL SHALL BE STAKED OR LAID OUT IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

5. NO SUBSTITUTION (INCL. CULTIVARS) SHALL BE ACCEPTED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARHCITECT PRIOR TO PLANTING.

6. ALL PLANT MATERIAL SHALL BE OF EXCELLENT QUALITY, FREE OF DISEASE & INFESTATION–TRUE TO TYPE, VARIETY, SIZE SPECIFIED, & FORM PER ANSA STANDARDS.

7. ALL TREES & MULCH BEDS (UNLESS ROCK MULCH) SHALL RECEIVE 3" MIN. OF SHREDDED DARK BROWN PREMIUM HARDWOOD MULCH, AS DETAILED. ADD PREEN OR SNAPSHOT TO BEDS BEFORE & AFTER MULCHING FROM MARCH 1 TO OCTOBER 1. IF WNTER INSTALLATION, RETURN NEXT SPRING & INSTALL PREEN/SNAPSHOT WITH NEW MULCH.

8. TREE TIES SHALL BE DEWITT 20" STRAPS FOR TREE STAKING. USE 10 GAUGE ELECTRIC WIRE. TREES AND STAKES SHALL BE STRAIGHT, PLUMB AND TAUT. TREE STAKES TO BE REMOVED WINTER OF YEAR 2 AFTER INSTALLATION.

9. CONTRACTOR SHALL THOROUGHLY WATER–IN EACH PLANT IMMEDIATELY FOLLOWING INSTALLATION AND CONTINUE WATERING UNTIL SUBSTANTIAL COMPLETION. CONTRACTOR REQUIRED TO COORDINATE WATERING WITH THE OWNER AFTER SUBSTANTIAL COMPLETION.

10. ALL AREAS OF THE SITE DISTURBED DURING CONSTRUCTION THAT ARE NOT DESIGNATED AS BEDS / PAVEMENT AREAS SHALL BE SODDED WITH 90% TURF–TYPE TALL FESCUE AND 10% BLUEGRASS MIX SOD.

11. ALL LANDSCAPED AND TURF AREAS, INCLUDING STREETSCAPE PLANTERS AND TREES, SHALL BE IRRIGATED WITH AN AUTOMATED SYSTEM. THE CONTRACTOR SHALL PROVIDE A DESIGN TO COVER THE NEW LANDSCAPE AREAS WITH HEAD TO HEAD COVERAGE. ONLY RAINBIRD OR HUNTER IRRIGATION PARTS & EQUIPMENT ARE TO BE USED. DRIP IS PERMITTED. THE DESIGN SHALL PROVIDE ALL PIPES, HEADS, VALVES, CONTROLLER, WIRE, AND SLEEVES. SLEEVES SHALL BE INSTALLED BY THE GENERAL CONTRACTOR AND COORDINATED WITH THE LANDSCAPE / IRRIGATION CONTRACTOR. 4" PVC SLEEVES RECOMMENDED. PLACE SLEEVES AND MARK CLEARLY ABOVE GROUND FOR EASE OF FINDING. COORDINATE BACKFLOW, TAP & METER WITH THE GENERAL CONTRACTOR (GC) AND THE GC'S LICENSED PLUMBER. THE IRRIGATION DESIGN / SUBMITTALS SHALL BE SUBMITTED TO THE OWNER AND OWNER'S REPRESENTATIVE & LA FOR APPROVAL PRIOR TO ORDERING OR INSTALLING ANY MATERIALS FOR THE IRRIGATION SYSTEM. GC SHALL MAKE SURE THAT THE METER & BACKFLOW ARE COVERED IN THE BID, AS THE IRRIGATION CONTRACTOR IS LIKELY TO EXCLUDE THESE ITEMS FROM THE IRRIGATION BED. COORDINATE THESE ITEMS AND SLEEVES.

12. NO TREES SHALL BE PLANTED OVER TOP OF ANY UTILITY LINES OR PIPES. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO PLANTING AND ANY MODIFICATIONS TO TREE LOCATIONS SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT AND APPROVED BY THE CITY PRIOR TO PLANTING.

13. ALL PLANT MATERIALS AND IRRIGATION SYSTEM SHALL BE GUARANTEED FOR 1 YEAR FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. PLANT MATERIALS WILL BE ONE TIME REPLACEMENT AND RECORDS KEPT BY THE LANDSCAPE CONTRACTOR FOR ALL REPLACEMENTS.

14. CONTRACTOR SHALL REPORT SUBSURFACE SOIL OR DRAINAGE PROBLEMS TO THE LANDSCAPE ARCHITECT.

15. IN THE EVENT OF WORK IN OR ON THE JCW SANITARY MAIN, ANY TREES OR PLANTING PLACED WITHIN THE SEWER EASEMENT MAY BE REMOVED WITHOUT REPLACEMENT OR COMPESNATION THER–OF AND SHALL BE REPLACED BY THE PROPERTY OWNER AS REQUIRED BY THE CITY.

14. THIS LANDSCAPE PLAN IS DESIGNED TO BE IN CONFORMANCE WITH THE CITY OF MISSION, KANSAS ZONING CODE. THE LANDSCAPE ARCHITECT WILL COORDINATE CLOSELY WITH THE CITY OF MISSION, KANSAS TO MAKE SURE FINAL DEVELOPMENT AND PERMIT PLANS ARE IN CONFORMANCE WITH THIS CODE.

2 LANDSCAPE NOTES
NTS

CONCEPT PLANT SCHEDULE

	SHADE TREE 2.5" Caliper Ginkgo biloba / Maidenhair Tree Quercus imbricaria / Shingle Oak Tilia cordata `Chancellor` / Chancellor Linden Tilia cordata `Greenspire` / Greenspire Littleleaf Linden	22
	ORNAMENTAL TREE 2" Caliper/6`-7` Height Acer griseum / Paperbark Maple Amelanchier x grandiflora `Autumn Brilliance` / `Autumn Brilliance` Serviceberry Malus x `Royal Raindrops` / Royal Raindrops Crabapple	11
	EVERGREEN TREE 6`-7` Height Juniperus virginiana `Taylor` / Taylor Eastern Redcedar Picea abies / Norway Spruce Pinus flexilis `Vanderwolf`s Pyramid` / Vanderwolf`s Pyramid Pine	6
	PLANTING BEDS (1 TO 3 GALLON MATERIALS) Perennial Materials spaced 18"-36" O.C. (typ.) -	10,459 sf
	FESCUE SOD Drought-tolerant fescue blend -	9,846 sf

3 CONCEPT PLANT SCHEDULE
NTS

klover architects incorporated
10955 LOWELL AVENUE, SUITE 700 • OVERLAND PARK, KS 66210
ph: 913.649.8181 • fx: 913.649.1275 • www.klover.net

project title
MISSION TRAILS
JOHNSON DRIVE
MISSION, KS

project number
17042.001

drawing issuance

PDP SUBMITTAL	04.10.17

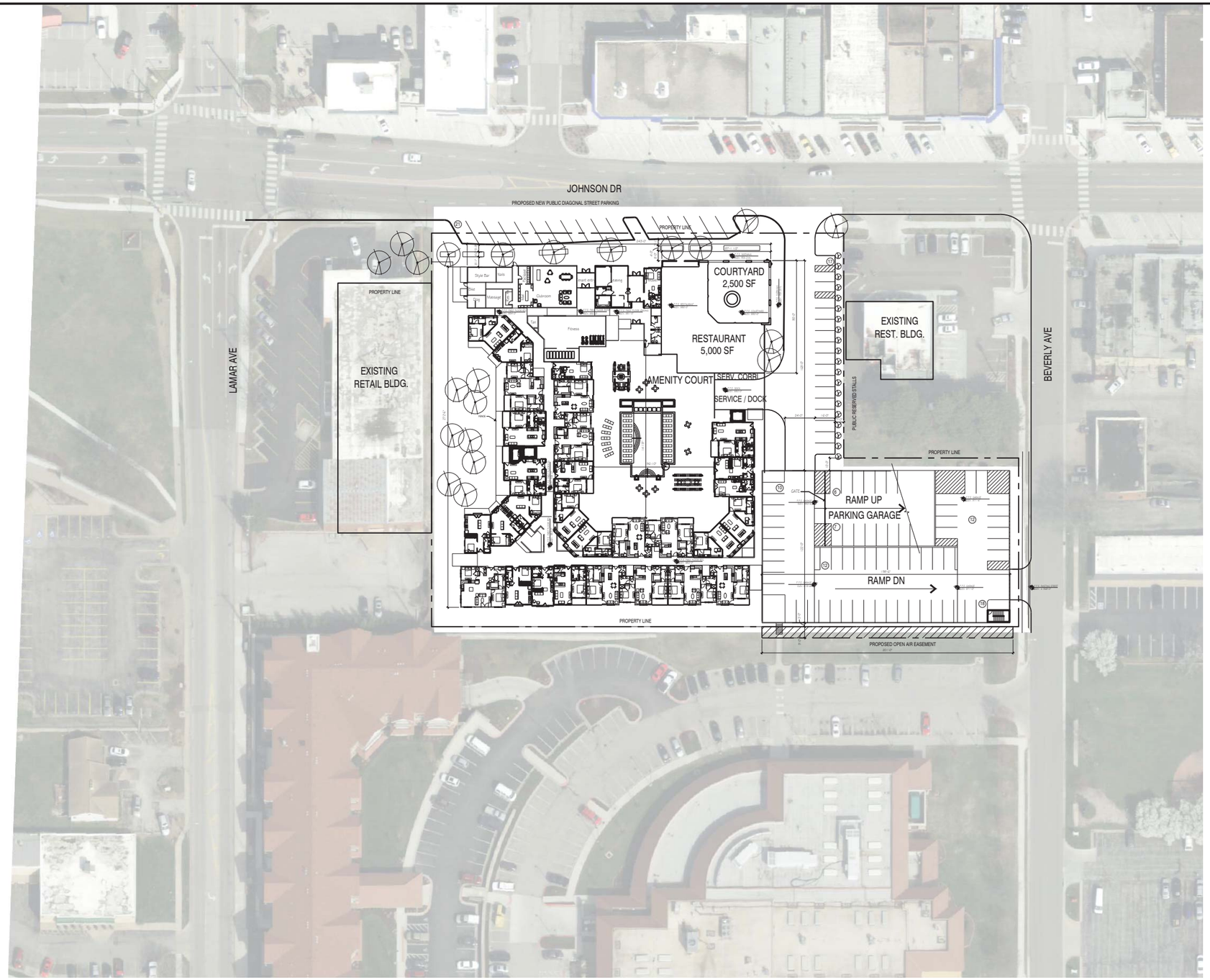
drawing revisions

No.	Description:	Date:
1	CITY COMMENTS	5/12/17

professional seal

drawing title
PRELIMINARY LANDSCAPE PLAN

drawing number
L100



SITE DATA

SITE ACREAGE:	2.820
5 STORY BUILDING	
-WOOD FRAMING ON PODIUM	
TOTAL UNITS:	200
RESTAURANT:	5,000 SF
COMMERCIAL:	5,000 SF
RESIDENTIAL:	203,125 SF
TOTAL SF:	213,125 SF
COURTYARD NOT INCLUDED: 2,500 SF	

PARKING REQUIRED:

200 UNITS	=	225 STALLS
@ 1 PER 1 BED & 1.5 PER 2 BED		
RETAIL / REST. PARKING		
@ 10 PER 1000SF	=	50 STALLS
TOTAL REQ:		275 STALLS

PARKING PROVIDED:

SURFACE STALLS:	38 STALLS
GARAGE STALLS:	287 STALLS
TOTAL PARKING:	325 STALLS

PARKING GARAGE BREAKDOWN:

OPEN GARAGE PARKING:	52 STALLS
APARTMENT PARKING:	235 STALLS

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	PDP RESUBITTAL 05.12.17	

professional seal

kloverarchitects incorporated

EPC REAL ESTATE GROUP

STUDIO A
ARCHITECTURE LLC
123 SOUTHWEST BLVD
KANSAS CITY, MO 64108
813.256.5925
WWW.SA-ARCH.COM

0' 20' 40' 80'

SITE PLAN 1
SCALE: 1" = 40'

drawing title
ARCHITECTURAL
SITE PLAN

drawing number
AS100

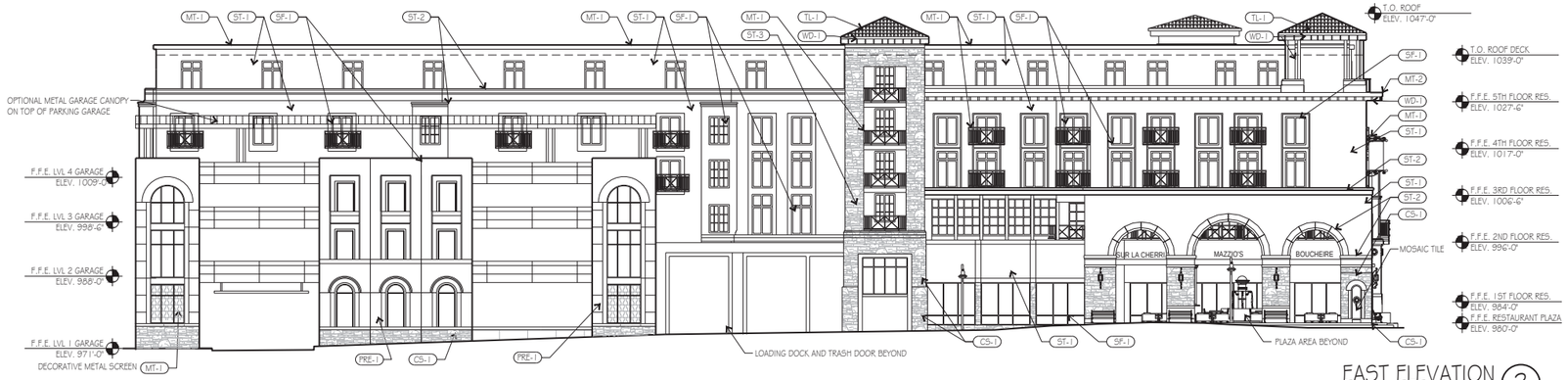
FINISH SCHEDULE

SYMBOL	MATERIAL	MANUFACTURER	COLOR	TEXTURE / FINISH
CS-1	CAST STONE	TBD	LIMESTONE	TBD
ST-1	STUCCO	TBD	OFF WHITE	TBD
ST-2	STUCCO	TBD	BIEGE	TBD
ST-3	STUCCO	TBD	TBD	TBD
MT-1	ALUMINUM	TBD	DARK BRONZE	TBD
PRE-1	PRECAST PANEL	TBD	ACID WASH - LIMESTONE	TBD
SF-1	WINDOW FRAMING	TBD	DARK BRONZE	TBD
WD-1	SYNTHETIC WOOD	TBD	TBD	TBD
TL-1	CONC. SPANISH ROOF TILE	TBD	RED	TBD

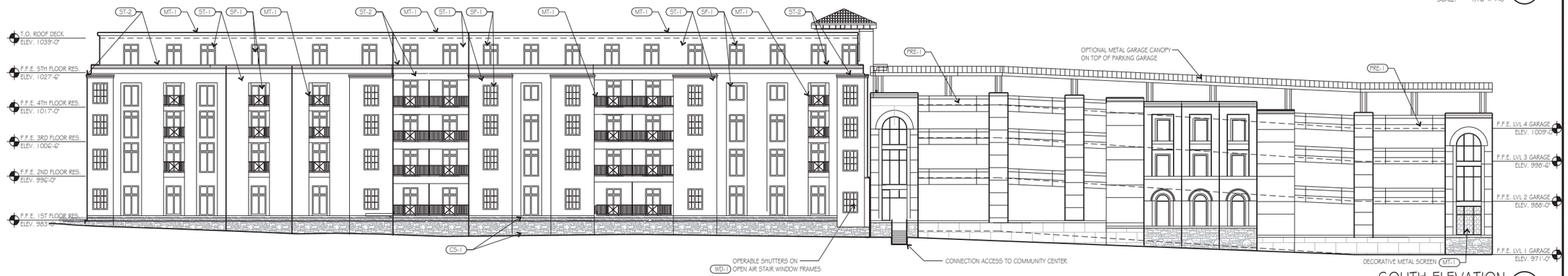
FACADE MATERIAL %

NORTH	14,331 SF			SOUTH	16,479 SF	
GLAZING	3,272 SF	22.8%		GLAZING	4,636 SF	28.1%
MASONRY	2,641 SF	18.4%		MASONRY	1,363 SF	8.2%
STUCCO / METAL	8,418 SF	58.8%		STUCCO / METAL	10,480 SF	63.7%
EAST	13,100 SF			WEST	14,331 SF	
GLAZING	2,408 SF	18.4%		GLAZING	4,702 SF	32.8%
MASONRY	1,045 SF	8%		MASONRY	1,043 SF	7.2%
STUCCO / METAL	9,647 SF	73.6%		STUCCO / METAL	11,473 SF	80%

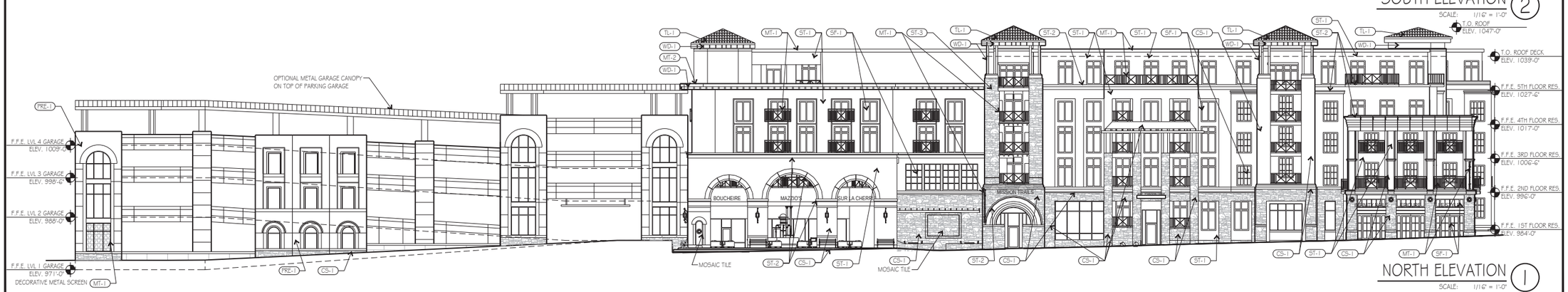
WEST ELEVATION (4)
SCALE: 1/16" = 1'-0"



EAST ELEVATION (3)
SCALE: 1/16" = 1'-0"



SOUTH ELEVATION (2)
SCALE: 1/16" = 1'-0"



NORTH ELEVATION (1)
SCALE: 1/16" = 1'-0"

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projecttitle

MISSION TRAILS

JOHNSON DRIVE
MISSION, KS

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drawingissuance

PDP SUBMITTAL	04.10.17

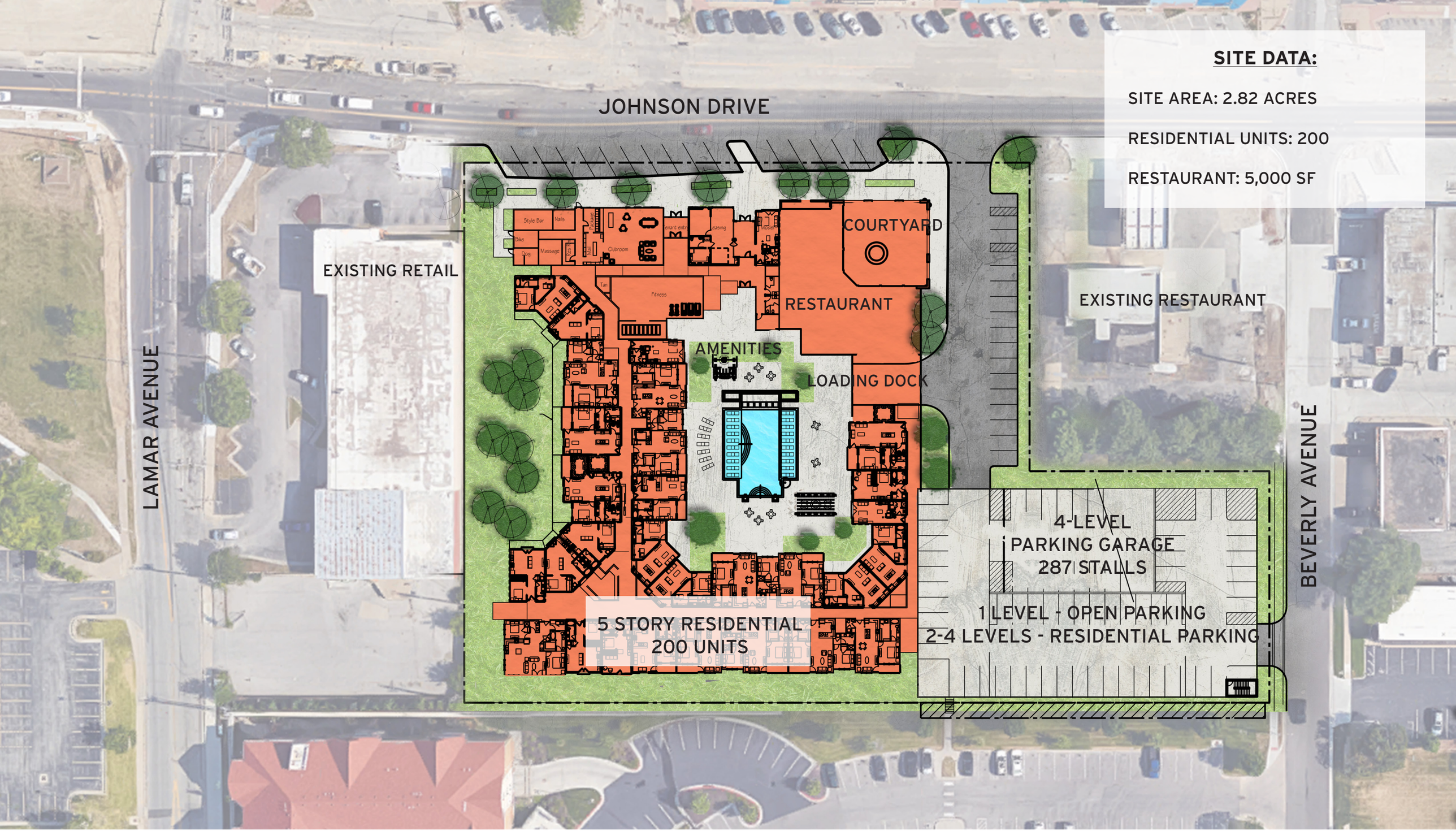
drawingrevisions

No.	Description:	Date:
	PDP RESUBITTAL 05.12.17	

professionalseal

drawingtitle
ARCHITECTURAL ELEVATIONS

drawingnumber
A200



SITE DATA:

SITE AREA: 2.82 ACRES

RESIDENTIAL UNITS: 200

RESTAURANT: 5,000 SF

COLORED SITE PLAN

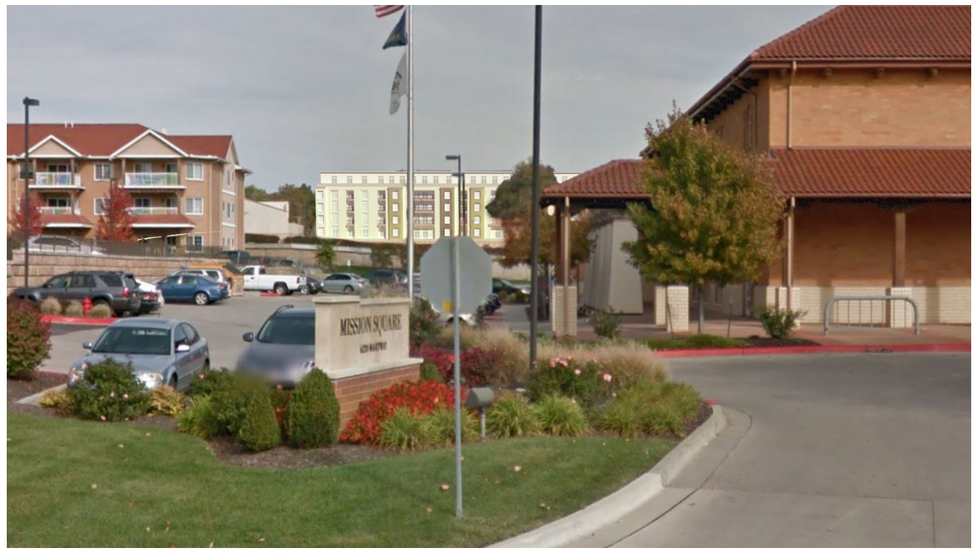
klover architects incorporated	EPC REAL ESTATE	SCALE: 1:50	JOHNSON HEIGHTS	JOHNSON DR.	MISSION, KS	12 MAY 2017


MISSION TRAILS
MISSION TRAILS
Infinity Nails
Epicure
le Style

VIEW 1


Mazzio's
boucherie
Mazzio's
Sur la Cherri'
MISSION TRAILS
MISSION TRAILS

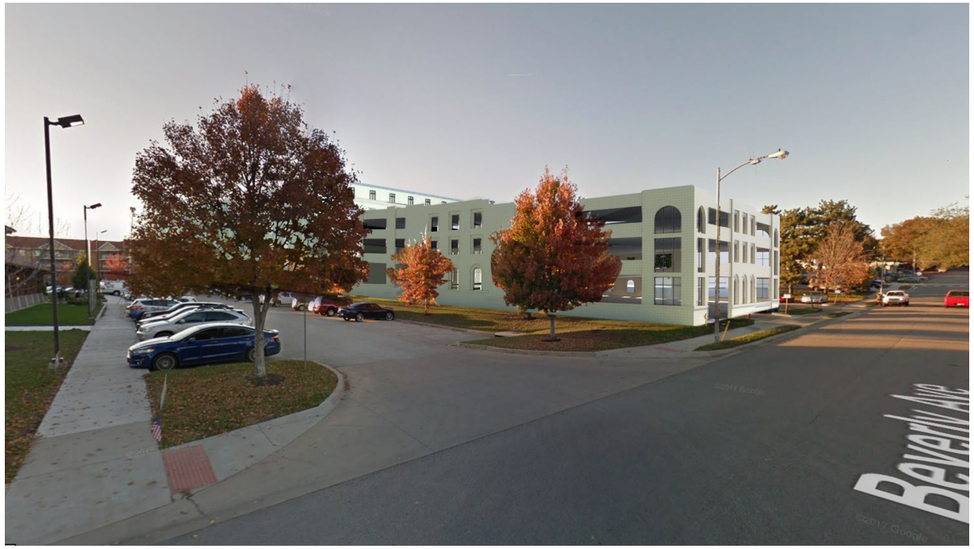
VIEW 2



VIEW FROM MARTWAY ST

VIEW FROM BEVERLY AVE LOOKING WEST

VIEW FROM LAMAR AVE



VIEW FROM BEVERLY AVE LOOKING NORTHWEST

EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

SOUTH ELEVATION

VISION IMAGES

VISION IMAGES

VISION IMAGES

Project Narrative- Final Development Plan

August 23, 2017

Mission Trails
Johnson Drive and Beverly Avenue
Mission Kansas
Residential Mixed-Use

The Final Development Plan application for Mission Trails is a residential mixed use development, located on the Southwest corner of Johnson Drive and Beverly Avenue and is currently the location of a single level office building. Immediately on the corner is the restaurant referred to as The Bar. The proposed development consists of a four and five level residential building, surrounding interior amenities courtyard, with a four level parking garage located behind The Bar and on Beverly Avenue.

The residential portion of the project will consist of 200 units in approximately 203,125 SF. The corridors are open air with screens, shutters and are semi-conditioned. Including the corridors and restaurant the total square footage is 223,653sf. The retail/restaurant on the south east corner will be approximately 5,000 SF surrounding a covered 2,500 square-foot courtyard area. The courtyard will have operable glass garage type doors to extend the usability into the fall and winter months. The Retail presence on Johnson Drive will consist of the leasing office, a style bar, massage therapy and fitness center. This will equate to ground level retail of approximately 6,500 SF and 10,000 SF if including leasing and fitness center, not including the 2,500 SF open covered courtyard.

Parking consists of the construction of 21 diagonal street parking, continuing the current development theme within downtown, 16 reserve spaces for the restaurant area on the entrance drive, and a parking garage consisting of 285 parking stalls for a total of 301 Parking stalls (322 including street parking). The residential parking will be a gated upper level structured parking of 233 parking spaces that will connect direct to the 2-4 floor levels. The parking garage currently has 52 public parking spaces on the ground level that connects to Beverly Avenue and by a half flight of stairs connects to the existing Walkway to the Sylvester Powell Center.

The Downtown District does not have any specific parking requirements, however based on the developers past experience, they are proposing providing 1 parking stall for each one bedroom apartment or studio, and 1.5 parking stalls for each two bedroom apartment. This would require a total of 213 parking spaces based on the current apartment mix with 10 cars per 1,000sf required for the 65,00sf space at 65 stalls for total required parking would be 278 stalls.

The exterior facades are consistent and sympathetic to the downtown neighborhood in color, materials, architectural form, and detailing. The exterior design is a Mission style with stone bases, stucco, Spanish clay tile roofs, synthetic wood timber soffit elements, and decorative light fixtures and canopies. The Mission style is consistent with the existing architectural character of the Sylvester Powell Center to the South of this project site and in particular the Capital Federal building at the corner of Johnson Drive and Nall. **The facade elements respect the scale of the immediately adjacent building elements and the proposed design is compatible in scale and proportion to its immediate context incorporates elements that related to the human scale.** The massing of the building is sensitive to the streetscape environment and has only four stories on the southeast corner. The Johnson drive facade steps back from the front to reduce the overall façade massing. The overall street presence enhances a

pedestrian scale for a walkable public streetscape with Spanish mosaic tile features, Blade signs, canopies, and decorative light fixtures. The courtyard providing for covered amenity areas that provides for public gatherings as well as restaurant users and for the enjoyment of the surrounding neighborhood. The retail presence has a variety of exterior entrances and protected canopies for signage identification and an anticipated blade sign program. The design incorporates lower level stone finishes and vertical and arched elements that differentiate from the upper level.

The large building is designed to reduce its perceived height. The massing is divided up into smaller components with projected and recessed column and patio elements. The design respects the height of the corner buildings particularly The Bar, by reducing the corner height and by providing a two story courtyard element. On the Salvation Army elevation the corner has projected covered patio areas, three stories high and the west wall indents and recesses further away. The Johnson Drive Façade steps back from the corners above the second level podium with the use of tower elements and three story covered patio areas. The massing is broken up by the columns, fenestrations, and decorative elements; such as arches, mosaic tile insets, blade signs and decorative light fixtures.

The interior residence amenity courtyard is anticipated to have a pool, BBQ grills and trellises and fire pits of the residences. The trash and loading dock are internal and enclosed behind aluminum panelized garage doors and accessed off of the interior drive from Johnson Drive.

klover architects

August 23, 2017

VIA EMAL/USPS

Danielle Sitzman
City of Mission
6090 Woodson St.
Mission, KS 66062
(913) 676-8363

RE: Case #17-04 Mission Trails, Lamar & Johnson Dr., Mission, KS
Response to City Comments

Dear Danielle Sitzman,

This letter is in response to your review comments received by our office via email on August 11, 2017. You will find your comments in **bold** and our response in *italics*.

Planning Review Comments

Plat Comments

1. Re-platting of the property is the preferred method for the dedication of right-of-way. Staff will consider dedication by separate instrument. In either case, dedications will be required prior to the issuance of building permits and must match the surrounding Johnson Drive corridor by designating all of the streetscape up to the face of the building.

- *Noted, please see revised Sheet C002*

Site Comments

2. Show the proposed development rather than the site to be demolished.

- *Existing site and proposed development broken out into two separate sheets. See sheets C001 & C002*

3. Provide details of the newly proposed segmental block wall along the west property line and the wall along the east property line abutting the restaurant. Per the Johnson Drive Guidelines, fences and walls must be designed to reflect a/or complement the architectural style of the adjacent building.

- *Please see attached image detailing the architectural style of the Versa-Lok retaining wall.*

4. Provide details of the trash enclosure.

- *See revised sheet A300 details4, 8 & 12.*

5. Provide ground floor calculations of the amount of frontage of retail and service uses. This must be 51% or more of the total per the condition placed on the preliminary site plan.

- *See Revised Sheet A110. Retail area totals 53.4% of frontage, not including office use or Restaurant frontage along East side of façade.*

6. **Shorten the note about new curbs along Beverly Avenue to exclude roll-back design. Curb design will be reviewed as part of the construction plan review process.**
   - *See Revised Sheet C003*

7. **Driveway openings on Johnson Drive and Beverly Avenue should be no wider than 24'.**
   - *Sheet C003 dimension of 25' is to back of curb, therefore providing a 24; wide drive.*

8. **Add a sidewalk/walkway along the south side of the parking garage from the public sidewalk to the opening into the parking garage.**
   - *Sidewalk on south side of garage has not been added. We prefer to keep this area landscape. Existing pedestrian connection from the southern property provides adequate circulation and access to public garage. A sidewalk is already provided to the south of the east entrance of the garage off of Beverly which provides adequate access to the public garage.*

9. **Add a pedestrian entrance into the south side of the parking garage in the vicinity of the existing connection to the Community Center. If an alternate travel path for the public is proposed through the main building, please explain.**
   - *Existing Community Center walk has access to the west side of the parking garage. To avoid duplicate stair scenarios which may cause confusion we have combined the apartment exit stair to the garage with the public pedestrian route to the garage for efficiency. Sidewalk now wraps around southwest corner and has access to the garage from an enlarged flight of stairs.*
   -

10. **Provide an exhibit showing pedestrian circulation patterns around and through the site.**
   - *See new sheet A111 showing proposed pedestrian circulation patterns.*

11. **Please consider gas and water connections to the building in locations or by methods which will have the least disturbance to the pavement of Johnson Drive. Further review of this will occur at the time of building and construction plan reviews.**
   - *See Revised Sheet C004. Connection to mains is across Johnson Dr. Connection methods of least disturbance are being considered and as noted will be discussed more at time of building and construction plan reviews.*

12. **Expand the sidewalk on the east side of the Johnson Drive entrance to match the west side as much as possible. An 8' clear path is desired across the entire site including this location. Verify the proposed monument sign is not in the sight triangle.**
   - *See Revised Sheet C003. Sidewalk at west end will match adjacent properties sidewalk. 8' wide clear sidewalk will be provided across entire site as noted. Per sheet C003, monument signage does not conflict with site triangle.*

13. **Verify if a retaining wall will be required along the north side of the parking garage where the new 4' drainage swale is indicated.**
   - *Retaining wall will not be required along north side of garage. Proposed contours die into side of garage wall which extends below grade and frost line.*

14. **Correct the on-street parking count from 18 to 21.**
   - *See Revised Sheet A110 with corrected parking count.*

15. Explain/provide details of the fencing along the south side of the property. There appears to be a gate/fence combination in this location. Evaluate the direction of the gate swing for property emergency egress.

- *See Revised Sheet A110 for egress swing direction revisions. Cut sheet of proposed fencing type have been provided.*

16. Consider the addition of a pedestrian walkway from the interior the parking garage along the north side of the Beverly Ave entrance and on the west side of the Johnson Drive entrance.

- *See Revised Sheet A110, pedestrian entrance added on west side of Johnson Drive as proposed. There is an existing pedestrian entrance to the south side of the parking garage entrance from Beverly which has direct access to public stairs, therefore no duplicate entry from the north side has been provided because of this and structural span requirements of the parking garage entry.*

17. Add bicycle storage/parking to the interior of the parking garage for use by the public.

- *See Sheet A110 for added bicycle storage in public garage. Cut sheet of grid bike parking provided.*

18. Please submit an exterior materials sample board and color elevation drawings.

- *Noted. Please see exterior samples board along with colored elevations and design package. We have also noted that final material selection shall be by approval by both City and Owner.*

19. Please provide calculations for the amount of stucco plaster to be used as a percent of each facade by story and the amount of glass on the first floor along Johnson Drive.

- *See Revised Sheet A200 with façade material calculations per previous discussions with city and deviations.*

20. Please show example vehicle profiles in the parking garage elevations to illustrate what will be visible from the exterior. Views of vehicles in the parking structure should be obscured from view from the street.

- *See Revised Sheet A200 with dashed in vehicle profiles. Vehicles are highly obscured from view from public streets.*

21. The building step back appears to be less than 8' and located above the third floor. Please explain how this complies with the Johnson Drive Design Guidelines. Please provide additional exhibits showing perspective views of these step backs from street level.

- *As previously discussed with staff, the building steps back in a patterned front along Johnson drive. A varied setback has been used to create a more urban and engaging façade. The use of tower elements and balconies with step backs provides for varying step backs from 5' to 10'-8" depending on the story of building. Details of these dimensions have been added to the plan sheets as well as the A300 sheet for clarity.*

22. Perspective views of other portions of the project would be helpful in explaining the building's design. The public has expressed concern about views into the loading dock area from the public ways.

- *See attached design package. Loading dock and trash area are screened from public ways via fully opaque overhead doors. There will be no visibility into these areas except at times of use.*

Sheet L100 & L101

23. Plant selections for the landscaping along the Johnson Drive corridor must exactly match the existing streetscape. As-built plans are available. This can be corrected at the time of construction drawing plan review.

- *Sheet L100 has been revised to show plantings to match existing as built plans for the Johnson Drive corridor.*

24. The street tree selection along Beverly Avenue is a prohibited species (sugar maple). Please replace with an approved species per Section 240.070.

- *Sheet L100 has been revised to new trees in place of sugar maples which adhere to approved species list per section 240.070.*

25. Add foundation plantings along the east side of the parking garage.

- *Sheet L100 has been revised to show foundation plantings along east side of garage.*

26. Pull back planting areas along the west side of the Johnson Drive entrance corridor near the transformer, trash enclosure, and loading dock to allow for a pedestrian walkway to connect the parking garage to Johnson Drive.

- *Sheet L100 has been revised to show plantings pulled back to allow for pedestrian pathway connectivity to the garage.*

27. Edit General Landscape Note #8 to include streetscape planters and trees to match the preliminary site plan notes.

- *Sheet L101 note #8 has been revised to include streetscape planters and trees.*

28. It appears trees and planting along the south side of the main building may be in conflict with the proposed turf grass BMP. Please revise the stormwater plan to account for any effect these plantings may have. A landscape buffer is a desirable element in this location.

- *Per engineering comments, BMP's are not required for this project and have been omitted. Trees and plantings along southern side of site have been relocated per engineering comment of no trees being located in the swale.*

29. Provide a photometric sheet and additional details. Full cutoff fixtures are required. All pedestrian areas should have a minimum of 1/2 foot candle of illumination. Ideal color temperature of outdoor lighting is no greater than 3,000K.

- *Photometric plan with full cutoff fixtures has been added as sheet E100 to comply with city regulations of minimum illumination and color temperature requirements.*

Johnson Drive Design Guidelines Comments-Building Facades

Please provide a narrative description explaining the way in which the proposed design complies with the intent of the Design Guidelines. Specifically:

- **How the exterior facades are consistent or sympathetic to the downtown neighborhood in color, materials, architectural form, and detailing**
- **How the facade elements respect the scale of the immediately adjacent building elements**
- **How the proposed design is compatible in scale and proportion to its immediate context incorporates elements that related to the human scale.**
- **How the large building is designed to reduce its perceived height**

    - *Please see attached narrative dated August 23, 2017.*

Display windows should be elevated above sidewalks by 18-24". Bulkheads should be constructed from study easy to maintain materials.

- *See Revised Sheet A200 showing display windows elevated above sidewalks.*

Private Sign Criteria

Please edit the following:

1. Correct minor typo page 1 third bullet point, "Sign area is *defined*..."

- *Please see attached updated Sign Criteria*

2. Page 2, Information Sign bullet. Please clarify what % limit of windows may be covered by signs other than hours of operation.

- *Please see attached updated Sign Criteria*

3. Page 3, Development Wall Signs. Please remove marquee reference-project does not contain a marquee which is a separate sign type than a projecting sign.

- *Please see attached updated Sign Criteria*

4. Please indicate if temporary signs will be allowed and to what standards.

- *Please see attached updated Sign Criteria*

If you have any questions or comments, please feel free to contact me at 913-649-8181 or by email at henry@klover.net.

Sincerely,

Henry Klover
President

Cc: Terry O'Leary, Steve Coon, & File

Attachments: Revised Drawings, Cut Sheets, Stormwater Letter, Traffic Memo, Narrative Letter, Revised Signage Criteria, Material Board, & Digital Copy (CD)

September 20, 2017

City of Mission
Community Development
Attention: Danielle L. Sitzman, AICP
6090 Woodson St.
Mission, Kansas 66202

RE: **Project Name:** Mission Trails – Final Site – Site Civil & Traffic Review

Dear Ms. Sitzman,

We have completed our review of the Traffic Impact Study submitted with the above mentioned Final Site Plan. Our comments are noted below:

Mission Trails Development Traffic Impact Analysis Review

The following comments are in reference to the *Mission Trails Traffic Impact Study* submitted by TranSystems, dated September 2017.

1. It is noted that the proposed access along Beverly Drive does not meet KDOT Access Management Policy Guidelines. Given the low speed and volume of traffic along Beverly Drive and proposed drive consolidation, the recommended location of the drive is adequate. Capacity analysis indicates that the drive is expected to operate at acceptable levels. Vehicle queuing is not expected to impact nearby drive locations.

2. The study indicates that traffic operations are expected to remain at similar levels of service with the addition of the proposed development. No roadway improvements are recommended with the proposed development.

Please note we have reviewed this application for traffic, site design, grading/drainage, floodplain issues and recommend approval. If you have any questions or comments or need additional information, please do not hesitate to contact me at 913-381-1170 or bsonner@olssonassociates.com.

Sincerely,

Brad Sonner, PLA, LEED AP
Vice President

Mission Trails Traffic Impact Study

Johnson Drive and Beverly Avenue
Mission, Kansas

Prepared for:

EPC Real Estate Group

Prepared by TranSystems

September 2017

TranSystems
EXPERIENCE | Transportation

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www.transystems.com

September 19, 2017

Mr. Steve Coon
EPC Real Estate Group
411 Nichols Road, Suite 225
Kansas City, MO 64112

RE: Mission Trails Traffic Impact Study
Johnson Drive and Beverly Avenue
Mission, Kansas

Dear Mr. Coon:

In response to your request and authorization, TranSystems has completed a traffic impact study for a proposed mixed-use development to be located generally to the south and west of the Johnson Drive and Beverly Avenue intersection in Mission, Kansas. The purpose of this study was to assess the impact of the proposed development on the surrounding transportation system.

Included in this study is a discussion of the anticipated impact of the proposed development on the adjacent street network and identified improvements to mitigate deficiencies for the following scenarios:

- Existing Conditions
- Existing plus Development Conditions

We trust that the enclosed information proves beneficial to you and the City of Mission in this phase of the development process. We appreciate the opportunity to be of service to you and will be available to review this study at your convenience.

Sincerely,
TRANSYSTEMS

By: _____
Jeffrey J. Wilke, PE, PTOE

JJW/jjw/P101170141
Enclosure

Introduction

TranSystems has completed this traffic impact study for a proposed mixed-use development to be located generally to the south and west of the Johnson Drive and Beverly Avenue intersection in Mission, Kansas. The purpose of this study was to assess the impact of the proposed development on the surrounding transportation system. The location of the project relative to the major streets in the area is shown on ***Figure A-1*** in ***Appendix A***.

In addition to a description of the proposed development and the surrounding transportation infrastructure, this study includes trip generation estimates, trip distribution estimates, capacity analyses, and a summary of the findings.

Proposed Development Plan

Currently, there is a vacant 46,200 square foot building and a large surface parking lot on the site. When the building was last occupied, it functioned as an office building. The existing structure is to be demolished to construct the proposed development.

The proposed plan for the development includes a five-story building and attached 285-stall parking garage. The garage will be located in the southeastern side of the site, along Beverly Avenue. The building will contain 200 apartment units, a 5,000 square foot restaurant, and 1,500 square feet of retail space. The restaurant and retail space will be located on the ground floor, along Johnson Drive.

The garage will be accessed from one driveway on Johnson Drive to be located roughly 450 feet east of Lamar Avenue, and 200 feet west of Beverly Avenue. There will be 16 surface parking spaces along this driveway leading into the garage. There will also be on-street angle parking spaces constructed along the south side of Johnson Drive, adjacent to the development site. Another driveway to the garage will be provided from Beverly Avenue, approximately 320 feet south of Johnson Drive. This is essentially the same location as the southernmost driveway to the existing surface parking lot. A copy of the proposed site plan is included in ***Appendix A*** on ***Figure A-2*** for reference.

Study Area

To assess the impacts of the proposed development, the intersections listed below were identified for study during the A.M. and P.M. peak hours of a typical weekday.

- Johnson Drive and Lamar Avenue
- Johnson Drive and Beverly Avenue
- Martway Street and Beverly Avenue

Traffic Counts

Turning-movement traffic volume counts were collected at the Johnson Drive study intersections between Tuesday, September 12, 2017 and Thursday, September 14, 2017. The counts were collected at each intersection from 7:00 to 9:00 A.M. and from 4:00 to 6:00 P.M. Peak hour traffic counts for the Martway Street and Beverly Avenue intersection were obtained from a recent traffic study in the area.

These counts were collected on Wednesday, June 14, 2017. The existing lane configurations, traffic control devices, and peak hour traffic volumes have been illustrated on ***Figure A-3***.

Surrounding Street Network and Land Uses

The development site is located in the Downtown District of Mission with several different land uses on the same city block. To the west of the site are commercial businesses. The Mission Square senior living apartment building is located to the southwest of the site. South of the site is the Sylvester Powell Jr. Community Center. On the east, the site is bounded by Beverly Avenue. To the north, the site is bounded by Johnson Drive, which is lined with commercial businesses throughout the Downtown District. The development site does not include an existing restaurant, which will remain in the northeast corner of the same city block.

Johnson Drive is the main commercial corridor through the Downtown District. Johnson Drive is a four-lane undivided street with a posted speed limit of 25 m.p.h. Adjacent to the development site there is on-street angle parking provided along the north side of the street. To the east of Beverly Avenue, on-street angle parking is provided along both sides of the street. The horizontal and vertical alignment of the Johnson Drive is generally straight and level in the vicinity of the site. At the intersection with Lamar Avenue, Johnson Drive widens to provide left-turn lanes. The Johnson Drive and Lamar Avenue intersection is controlled with a traffic signal.

Beverly Avenue is a two-lane local street with no posted speed limit. The horizontal and vertical alignment of the street is generally straight and level in the vicinity of the site. Beverly Avenue is stop-controlled at the intersections with Johnson Drive and with Martway Street, while these intersecting streets are uncontrolled. There are crosswalks across all approaches to the Beverly Avenue and Johnson Drive intersection. The crosswalk across the east leg of the intersection is supplemented by pedestrian crossing warning signs and pedestrian activated rectangular rapid flashing beacons.

Access Management Review

According to the Kansas Department of Transportation's Access Management Policy, access points along a Class E route with a 25 m.p.h. posted speed limit in a central business district (CBD) should be spaced at least 65 feet apart (*KDOT Access Management Policy, Table 4-6*). The proposed site driveway on Johnson Drive just satisfies the access spacing criteria, as it is to be located roughly 70 feet west of an existing driveway for the restaurant. Projected volumes of turning traffic at the site driveway on Johnson Drive are below the thresholds for warranting turn lanes.

The site driveway on Beverly Avenue is located about 40 feet north of an existing driveway on the east side of the street. While this is does not meet the access spacing criteria, it is not anticipated to be a safety or operational concern. Both of these driveways have been in these same locations for many years. Further, Beverly Avenue is a low volume, low speed local street. According to the Access Management Policy, the minimum access spacing criteria is reduced to 40 feet for a 20 m.p.h. speed limit. It should also be noted that the proposed site plan includes closing one of the two existing

driveways onto Beverly Avenue from the site, which will improve overall access management along Beverly Avenue.

Operational Analysis

The scope of analysis for the assessment of the proposed development's impact on the surrounding transportation system is based in large part on the recommended practices of the Institute of Transportation Engineers (ITE), as outlined in their Traffic Engineering Handbook. ITE is a nationally-recognized organization of transportation professionals with members from both private and public sectors. The analysis of the proposed development's impact included development of trip generation and trip distribution estimates as well as a traffic operations assessment for each study scenario. Each of the analysis methodologies and findings are described in the subsequent sections.

Trip Generation

Trip generation estimates were prepared for the proposed development using the Institute of Transportation Engineer's Trip Generation, 9th Edition. ***Table 1*** shows the expected trips to be generated by the proposed development.

Table 1
Trip Generation

Land Use	Intensity	ITE Code	Average Weekday	A.M. Peak Hour			P.M. Peak Hour		
				Total	In	Out	Total	In	Out
Apartments	200 du	220	1,336	102	20	82	128	83	45
Restaurant	5,000 sf	932	636	55	31	24	50	30	20
Specialty Retail Center	1,500 sf	826	102	13	8	5	25	12	13
Total Development Trips			**2,074**	**170**	**59**	**111**	**203**	**125**	**78**

The trip generation estimates for the commercial portion of the development were calculated using the Specialty Retail Center land use. This land use is described in Trip Generation as small strip shopping centers that contain a variety of retail shops specializing in quality apparel, hard goods, and services. This would include real estate offices, dance studios, florists, and small restaurants. This land use does not include data for the A.M. peak hour. Therefore, the A.M. peak hour trips were calculated using the Shopping Center land use.

Trip Distribution

The estimated trips generated by the proposed development were distributed onto the street system based on the trip distributions summarized on the next page in ***Table 2***. These distributions are based primarily on existing travel patterns in the area and engineering judgment. The detailed distribution patterns through the study intersection are shown in ***Appendix B***.

Table 2
Trip Distribution

Direction To/From	Percentage
North on Lamar Avenue	15%
South on Lamar	10%
East on Jonson Drive	25%
West on Johnson Drive	30%
West on Martway Street	15%
East on Martway Street	5%
Total	**100%**

Traffic Operation Assessment

An assessment of traffic operations was made for the scenarios listed below.

- Existing Conditions
- Existing plus Development Conditions

The study intersections were evaluated using the Synchro traffic analysis software package on the basis of the methodologies outlined in the Highway Capacity Manual (HCM), 2000 Edition, which is published by the Transportation Research Board. The operating conditions at an intersection are graded by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from "A" to "F". LOS A represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. ***Table 3*** shows the upper limit of delay associated with each level of service for signalized and unsignalized intersections.

Table 3
Intersection Level of Service Delay Thresholds

Level of Service (LOS)	Signalized	Unsignalized
A	≤ 10 Seconds	≤ 10 Seconds
B	≤ 20 Seconds	≤ 15 Seconds
C	≤ 35 Seconds	≤ 25 Seconds
D	≤ 55 Seconds	≤ 35 Seconds
E	≤ 80 Seconds	≤ 50 Seconds
F	> 80 Seconds	> 50 Seconds

While one of the primary measurements of traffic operations, LOS applies to both signalized and unsignalized intersections. There are however, significant differences between how these intersections

operate and how they are evaluated. LOS for signalized intersections reflects the operation of the intersection as a whole. While the individual movements may operate with varying LOS ratings, that is largely a function of the signal timings and how the intersection is operating relative to other signals in the vicinity.

Unsignalized intersections, in contrast, are evaluated based on the movement groupings which are required to yield to other traffic. Typically, these are the left turns off of the major street and the side-street approaches for two-way stop-controlled intersections. At unsignalized intersections lower LOS ratings (D, E and F) do not, in themselves, indicate the need for additional improvements. Many times there are convenient alternative routes to avoid the longer delays. Other times the volumes on the unsignalized approaches are relatively minor when compared to the major street traffic, and improvements such as a traffic signal installation may increase the average delay to all users of the intersection.

The LOS rating deemed acceptable varies by community, facility type, and traffic control device. For communities similar to Mission LOS D is generally considered the minimum desirable goal for signalized intersections. At unsignalized intersections LOS D, E, or even F are often considered acceptable for low to moderate traffic volumes where the installation of a traffic signal is not warranted by the conditions at the intersection, or the location has been deemed undesirable for signalization for other reasons, e.g. the close proximity of an existing traffic signal or the presence of a convenient alternative path.

Traffic queues are also evaluated as part of the analyses. Long traffic queues which extend beyond the amount of storage available, either between intersections or within turn lanes, can have significant impacts on operations. The projected vehicular queues are analyzed to ensure the analyses are reflective of the physical constraints of the study intersections and to identify if additional storage is needed for turn lanes.

Existing Conditions

The results of the intersection analyses for the Existing Conditions scenario are summarized on the following page in ***Table 4***. The study intersections were evaluated with the lane configurations, traffic volumes, and traffic control devices shown on ***Figure A-3***. The Synchro output files are included in ***Appendix C***.

The analysis results shown in ***Table 4*** indicate that all study intersections currently operate acceptably during both the A.M. and P.M. peak hours. Queues for turning movements are contained within their respective turn lanes.

Table 4
Intersection Operational Analysis
Existing Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
Movement	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Johnson Drive and Lamar Avenue				
Traffic Signal	*C*	*24.5*	*C*	*29.3*
Johnson Drive and Beverly Avenue				
Northbound	*B*	*13.5*	*C*	*17.6*
Southbound	*C*	*15.0*	*B*	*14.5*
Martway Street and Beverly Avenue				
Northbound	*B*	*11.2*	*B*	*11.8*
Southbound	*B*	*10.6*	*B*	*13.9*

1 – Level of Service
2 – Delay in seconds per vehicle

Existing plus Development Conditions

The results of the intersection analyses for the Existing plus Development scenario are summarized in ***Table 5***. This study scenario considers the addition of traffic from the proposed development. The study intersections were evaluated with the lane configurations, traffic volumes, and traffic control devices shown on ***Figures A-4*** and ***A-5***. The Synchro output files are included in ***Appendix C***.

Table 5
Intersection Operational Analysis
Existing plus Development Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
Movement	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Johnson Drive and Lamar Avenue				
Traffic Signal	*C*	*24.7*	*C*	*29.9*
Johnson Drive and Site Driveway				
	C	*15.5*	*C*	*21.2*
Johnson Drive and Beverly Avenue				
Northbound	*B*	*14.1*	*C*	*19.0*
Southbound	*C*	*15.9*	*C*	*15.4*
Beverly Avenue and Site Driveway				
Eastbound	*A*	*9.2*	*A*	*9.6*
Martway Street and Beverly Avenue				
Northbound	*B*	*11.6*	*B*	*12.3*
Southbound	*B*	*10.8*	*B*	*14.8*

1 – Level of Service
2 – Delay in seconds per vehicle

As shown in the table, all intersections are projected to operate at acceptable levels of service with the addition of traffic from the proposed development. Queues for turning movements are projected to be contained within their respective turn lanes. Queues of traffic exiting from the two site drives are projected to be minimal.

Summary

TranSystems has completed this traffic impact study for a proposed mixed-use development to be located generally to the south and west of the Johnson Drive and Beverly Avenue intersection in Mission, Kansas. The purpose of this study was to assess the impact of the proposed development on the surrounding transportation system.

The proposed development is projected to generate 170 trips during the A.M. peak hour, and 203 trips during the P.M. peak hour. The delays and levels of service at the study intersections are projected to be nominally impacted by the addition of development traffic. Queues for turning movements are projected to be contained within their respective turn lanes. Queues of traffic exiting from the two site drives are projected to be minimal.

Appendix A - Figures

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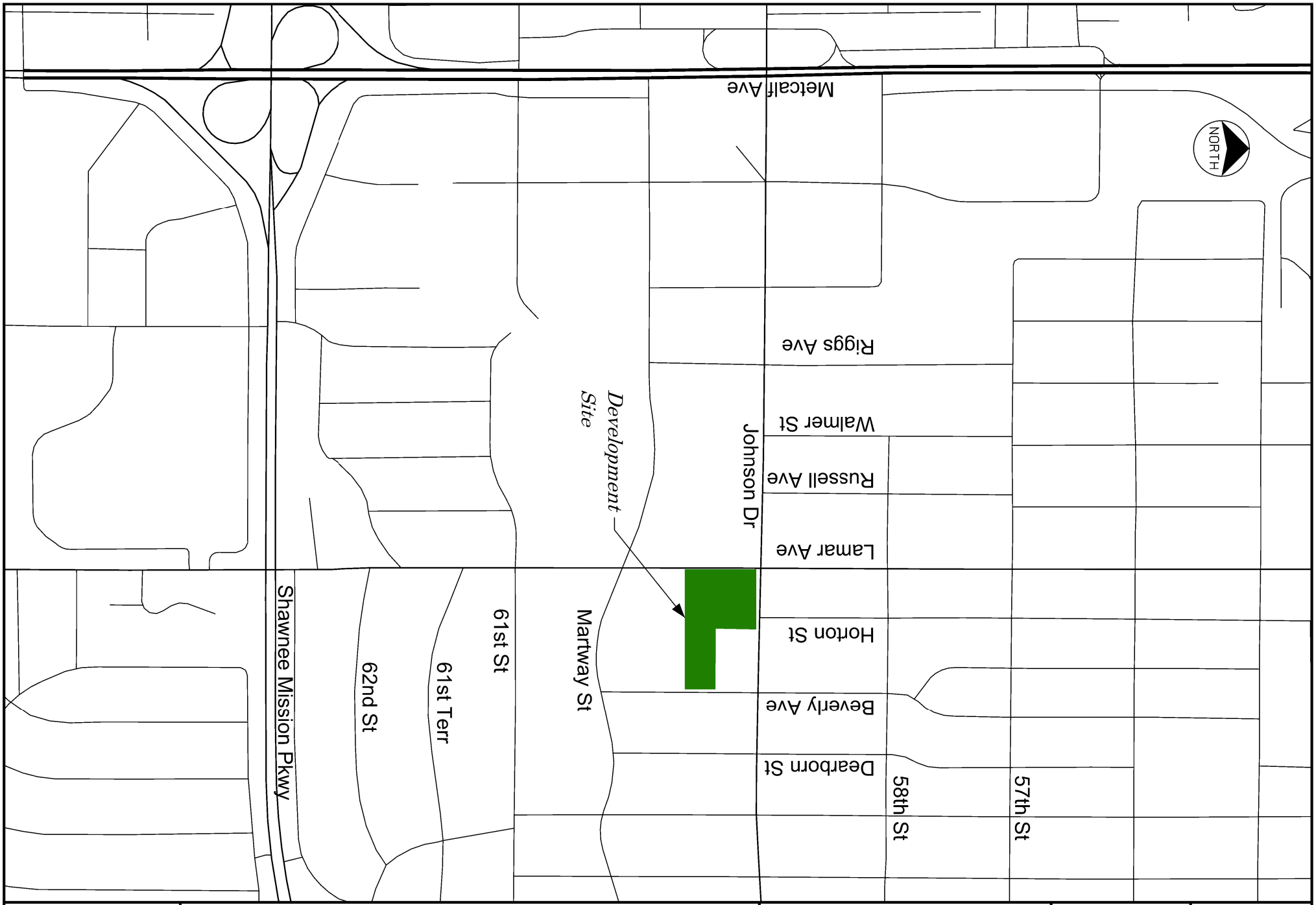

TranSystems	LOCATION MAP	Mission Trails Traffic Impact Study Mission, Kansas	September 2017 No Scale	Figure A-1

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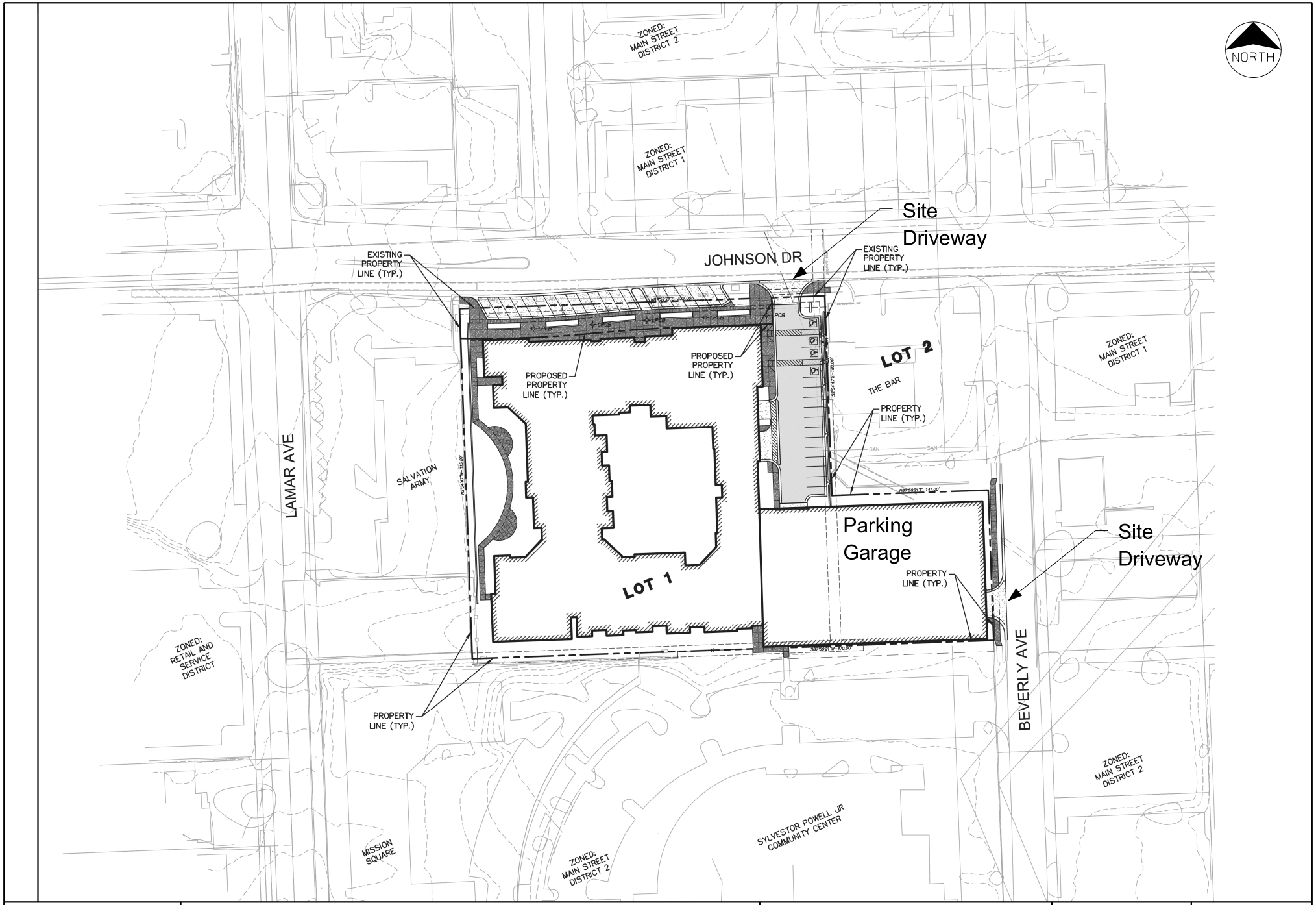


TranSystems	SITE PLAN	Mission Trails Traffic Impact Study Mission, Kansas	September 2017 No Scale	Figure A-2

LANE CONFIGURATIONS

TRAFFIC VOLUMES

Legend

- Traffic Signal
- Stop Sign
- Lane Configuration

123[45]

A.M. Peak Hour Volume

P.M. Peak Hour Volume

EXISTING LANE CONFIGURATIONS
AND PEAK HOUR TRAFFIC VOLUMES

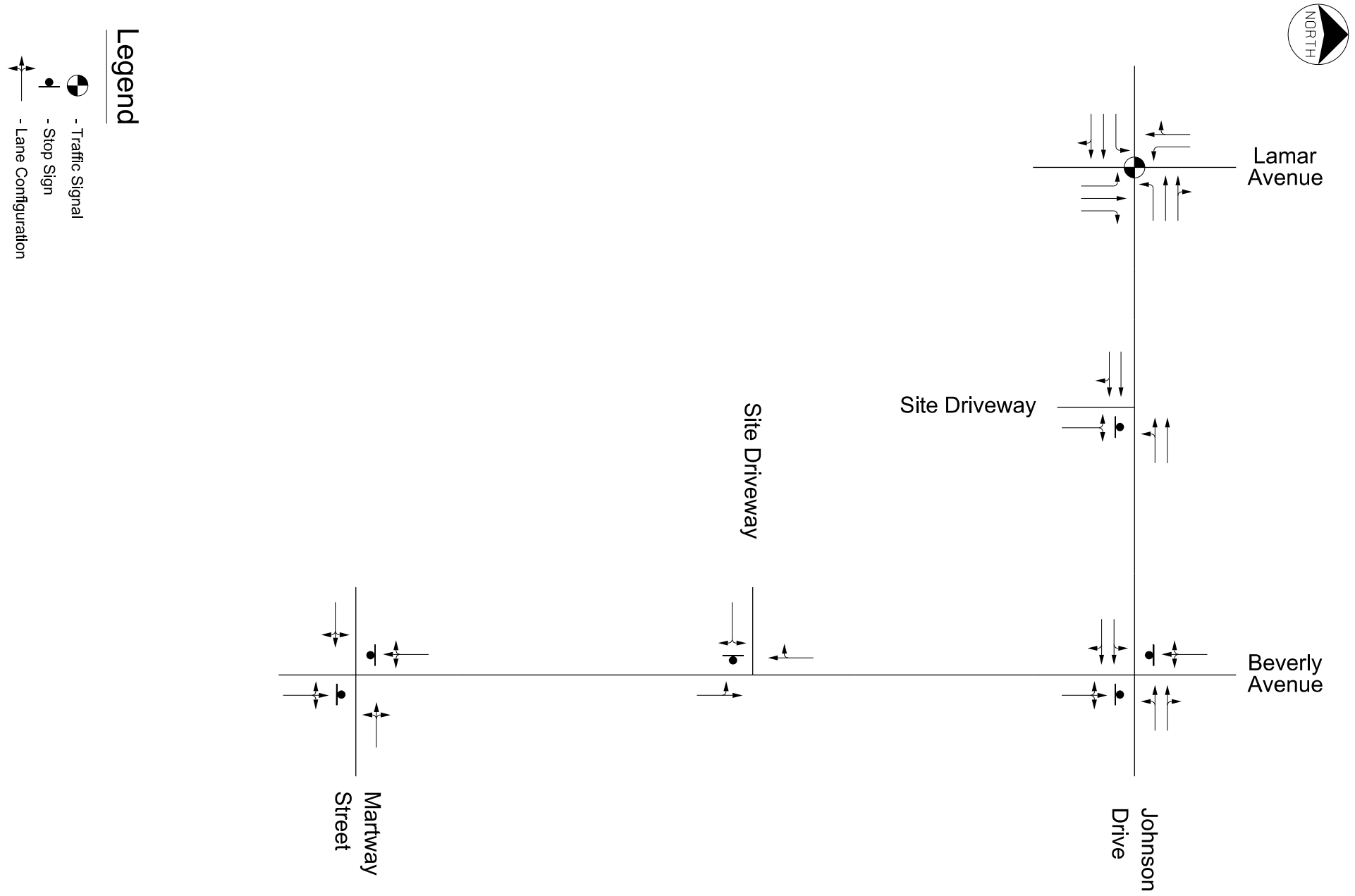
Mission Trails
Traffic Impact Study
Mission, Kansas

September 2017

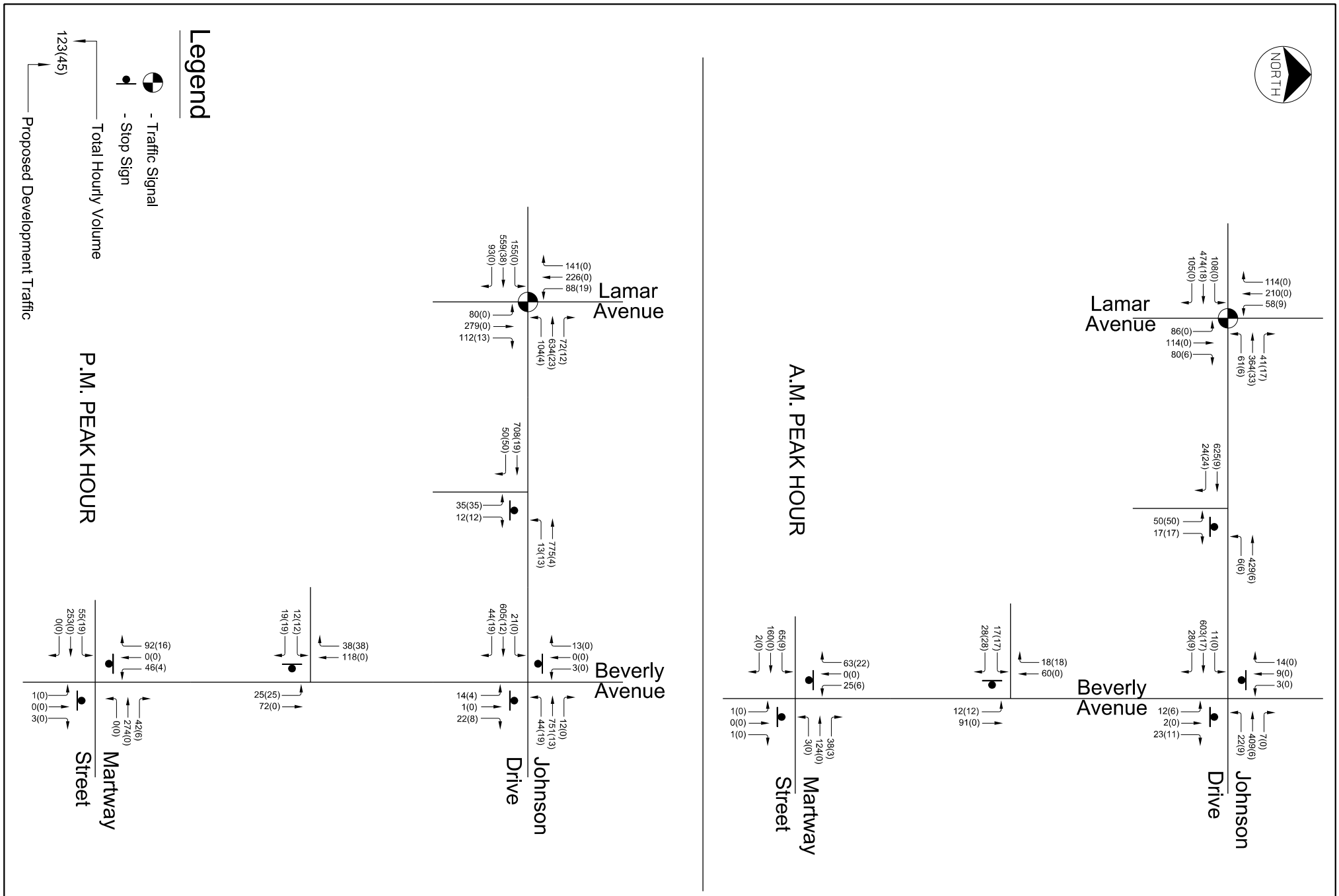
No Scale

Figure A-3

TranSystems



TranSystems	EXISTING PLUS DEVELOPMENT CONDITIONS LANE CONFIGURATIONS	Mission Trails Traffic Impact Study Mission, Kansas	September 2017 No Scale	Figure A-4



TranSystems	EXISTING PLUS DEVELOPMENT CONDITIONS PEAK HOUR TRAFFIC VOLUMES	Mission Trails Traffic Impact Study Mission, Kansas	September 2017 No Scale
			Figure A-5

Appendix B – Trip Generation and Distribution

See attached worksheets.

Mission Trails Traffic Impact Study

Mission, Kansas

Trip Generation

Land Use	Intensity		ITE Code	Daily	A.M. Peak Hour					P.M. Peak Hour				
					Total	% In	% Out	In	Out	Total	% In	% Out	In	Out
Existing Land Use														
General Office Building	46,200	sf	710	510	73	88%	12%	64	9	69	17%	83%	12	57
Total Exsiting Development Trips				*510*	*73*			*64*	*9*	*69*			*12*	*57*
Proposed Land Use														
Apartments	200	du	220	1336	102	20%	80%	20	82	128	65%	35%	83	45
Restaurant	5,000	sf	932	636	55	55%	45%	31	24	50	60%	40%	30	20
Specialty Retail Center	1,500	sf	826	102	13	62%	38%	8	5	25	44%	56%	12	13
Total Proposed Development Trips				*2,074*	*170*			*59*	*111*	*203*			*125*	*78*
Net New Trips				**1,564**	**97**			**-5**	**102**	**134**			**113**	**21**

Notes:

Trip generation estimates based on 9th Edition

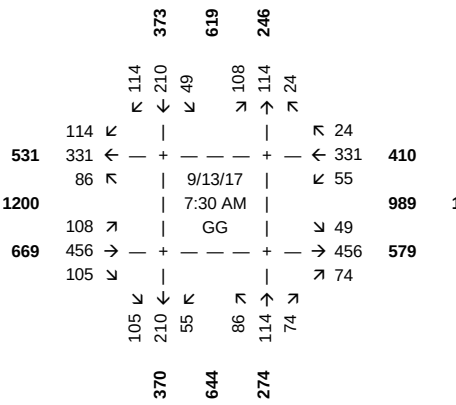
Mission Trails Traffic Impact Study

Mission, Kansas

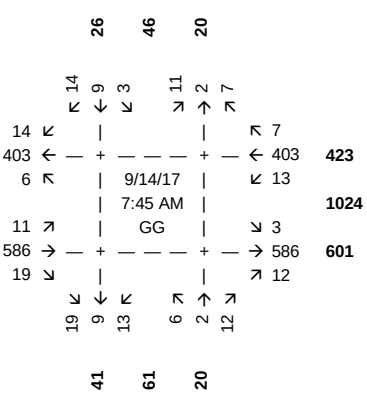
Existing Traffic Volumes

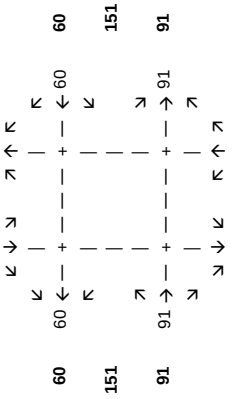
A.M. Peak Hour

Johnson Drive & Lamar Avenue

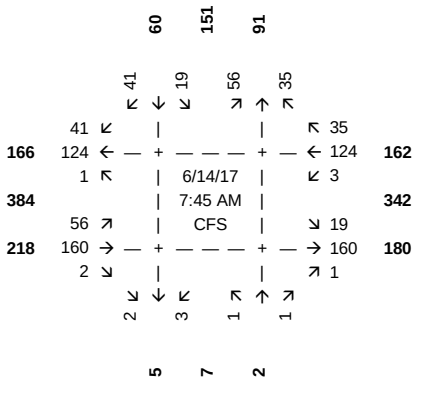


Johnson Drive & Beverly Avenue





Martway Street & Beverly Avenue



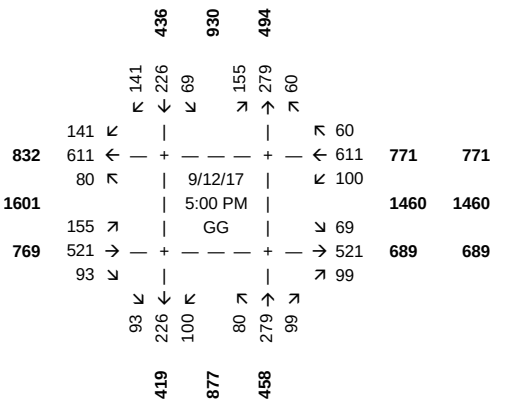
Mission Trails Traffic Impact Study

Mission, Kansas

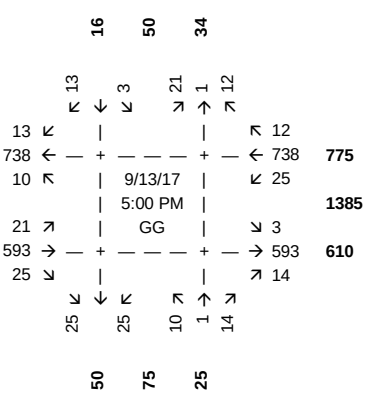
Existing Traffic Volumes

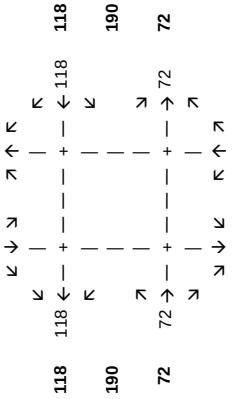
P.M. Peak Hour

Johnson Drive & Lamar Avenue

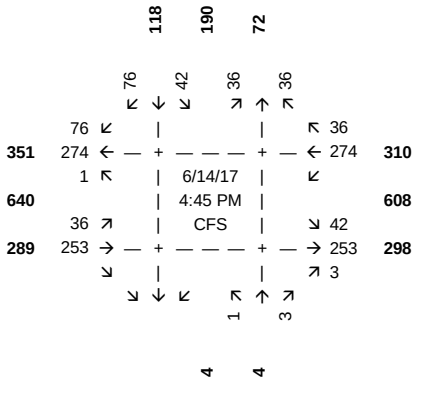


Johnson Drive & Beverly Avenue





Martway Street & Beverly Avenue



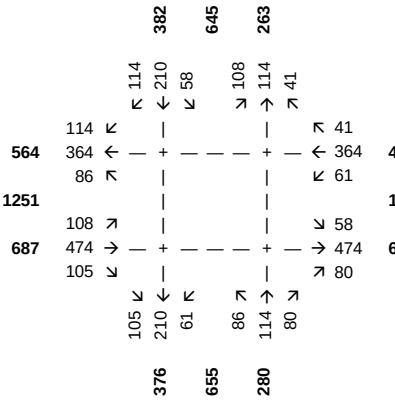
Mission Trails Traffic Impact Study

Mission, Kansas

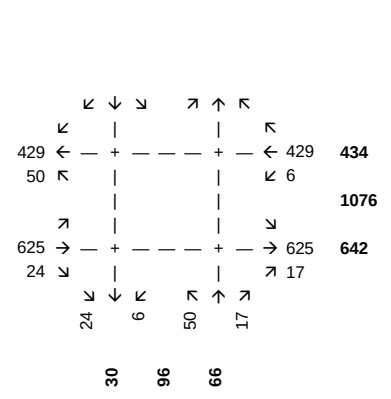
Existing plus Development Traffic Volumes

A.M. Peak Hour

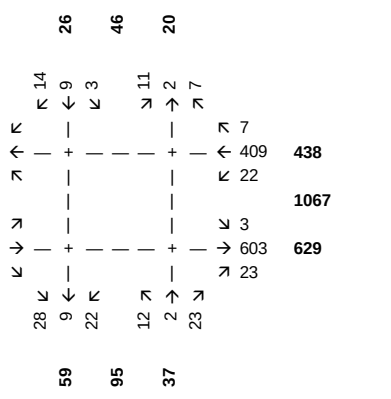
Johnson Drive & Lamar Avenue



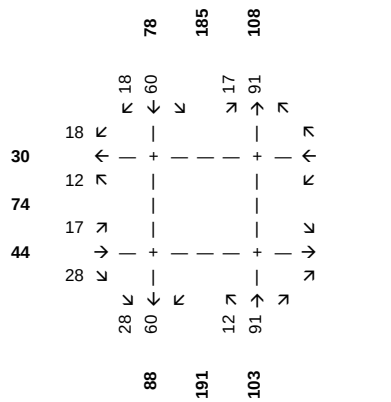
Johnson Drive & Site Driveway



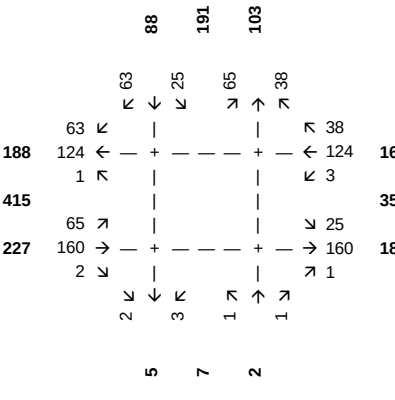
Johnson Drive & Beverly Avenue



Beverly Avenue & Site Driveway



Martway Street & Beverly Avenue



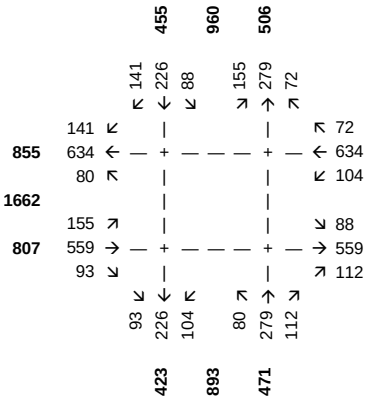
Mission Trails Traffic Impact Study

Mission, Kansas

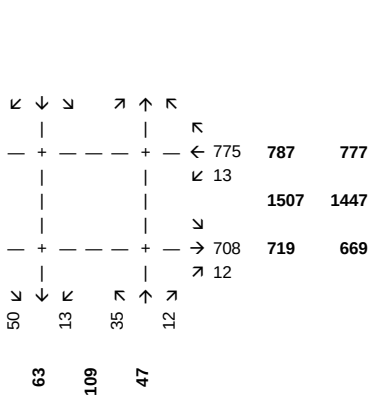
Existing plus Development Traffic Volumes

P.M. Peak Hour

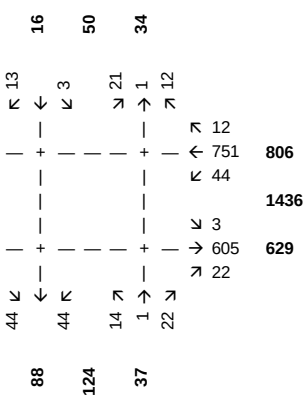
Johnson Drive & Lamar Avenue



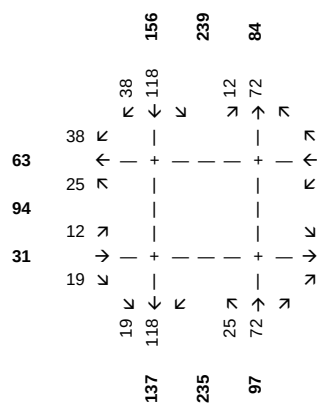
Johnson Drive & Site Driveway



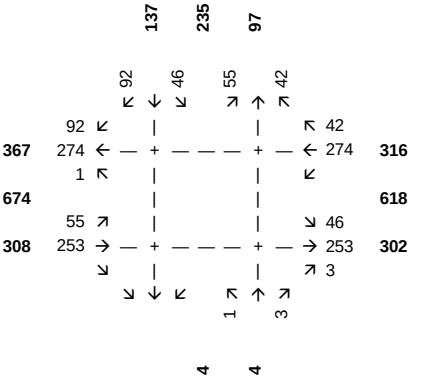
Johnson Drive & Beverly Avenue



Beverly Avenue & Site Driveway



Martway Street & Beverly Avenue



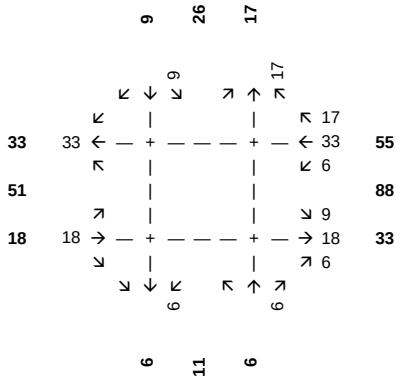
Mission Trails Traffic Impact Study

Mission, Kansas

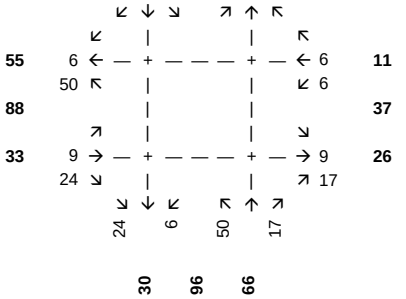
Development Trips

A.M. Peak Hour

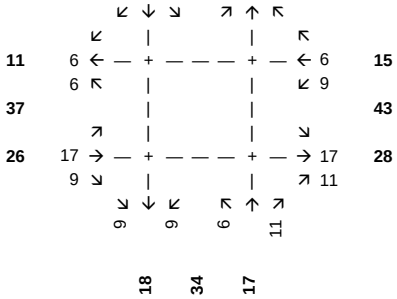
Johnson Drive & Lamar Avenue



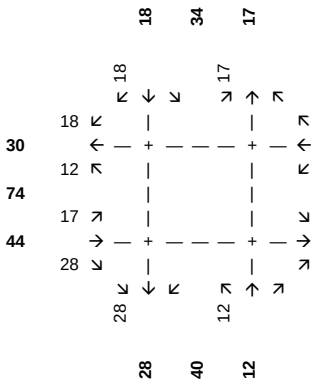
Johnson Drive & Site Driveway



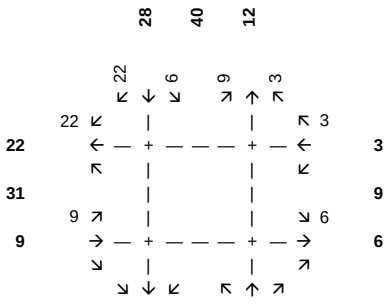
Johnson Drive & Beverly Avenue



Beverly Avenue & Site Driveway



Martway Street & Beverly Avenue



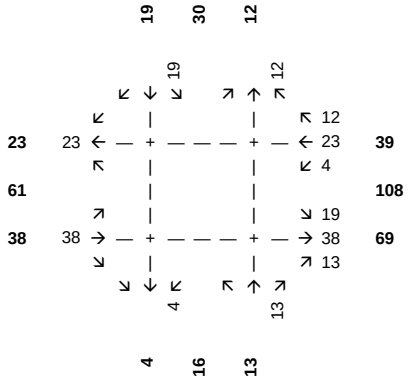
Mission Trails Traffic Impact Study

Mission, Kansas

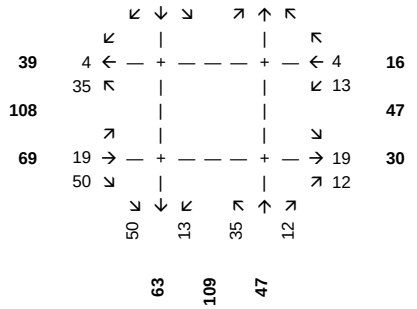
Development Trips

P.M. Peak Hour

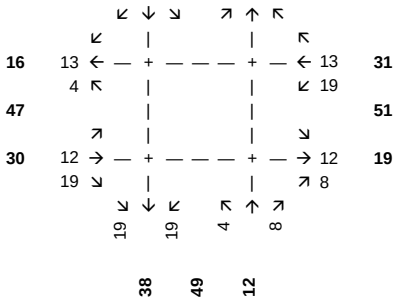
Johnson Drive & Lamar Avenue



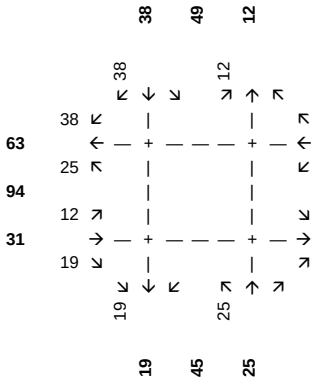
Johnson Drive & Site Driveway



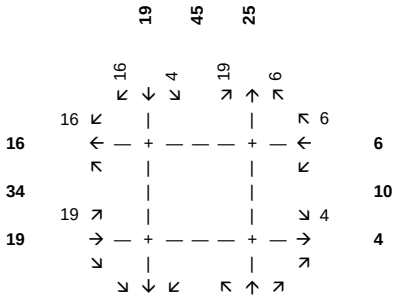
Johnson Drive & Beverly Avenue



Beverly Avenue & Site Driveway



Martway Street & Beverly Avenue



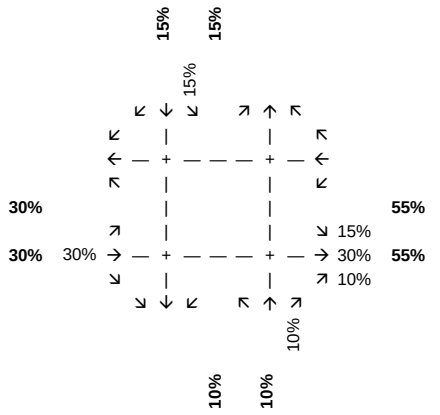
Mission Trails Traffic Impact Study

Mission, Kansas

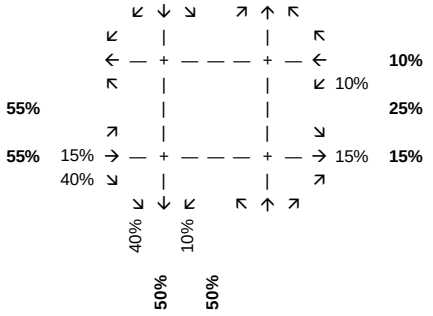
Trip Distribution

INBOUND

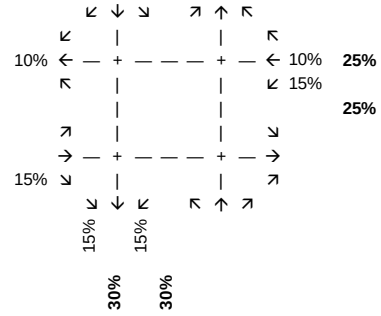
Johnson Drive & Lamar Avenue



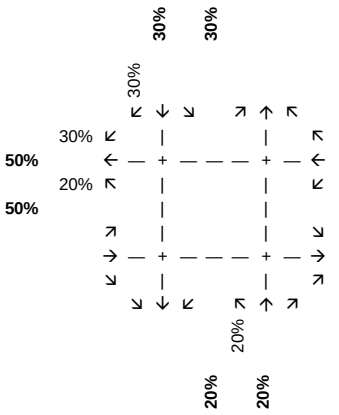
Johnson Drive & Site Driveway



Johnson Drive & Beverly Avenue



Beverly Avenue & Site Driveway



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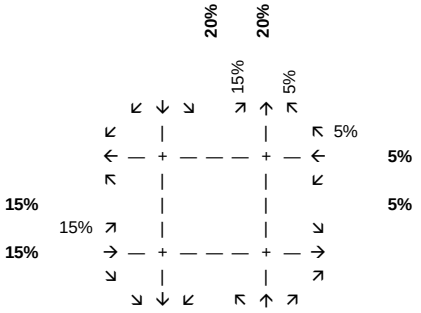


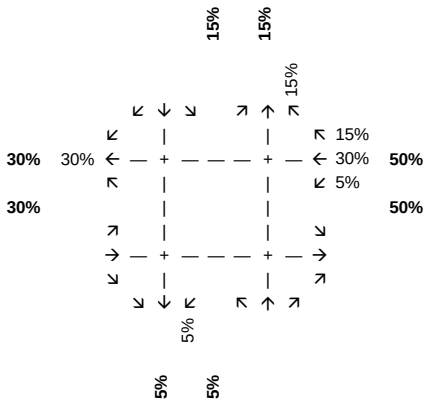
Mission Trails Traffic Impact Study

Mission, Kansas

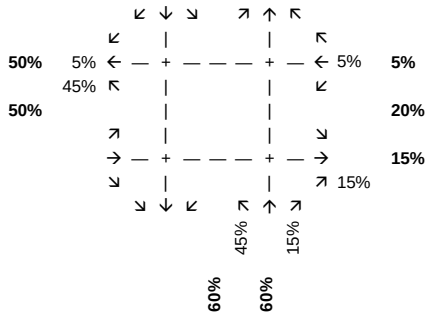
Trip Distribution

OUTBOUND

Johnson Drive & Lamar Avenue



Johnson Drive & Site Driveway



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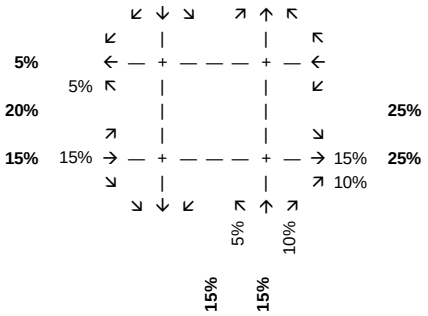
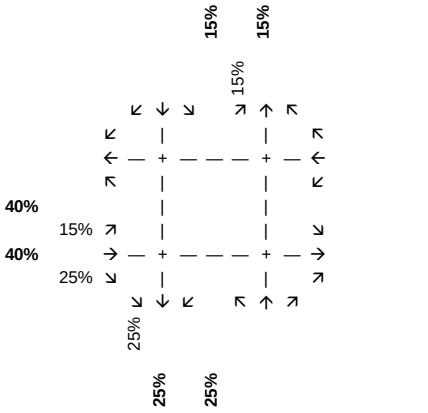
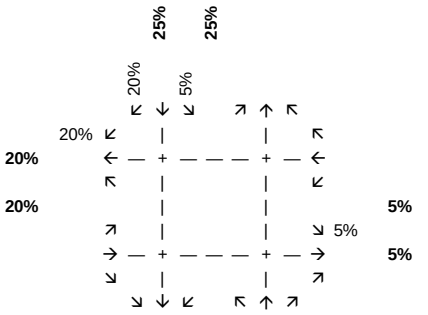


Beverly Avenue & Site Driveway



Martway Street & Beverly Avenue



Appendix C – Capacity Analysis Reports

See attached reports.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	117	610	60	386	93	124	80	53	352
v/c Ratio	0.28	0.63	0.19	0.43	0.25	0.20	0.13	0.11	0.67
Control Delay	18.2	29.1	18.0	28.6	16.9	23.0	1.1	15.7	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	29.1	18.0	28.6	16.9	23.0	1.1	15.7	32.5
Queue Length 50th (ft)	36	140	18	87	27	48	0	15	151
Queue Length 95th (ft)	84	234	49	155	65	102	6	41	278
Internal Link Dist (ft)		1163		581		669			739
Turn Bay Length (ft)	160		100		130		130	130	
Base Capacity (vph)	470	1807	336	1676	376	1194	1063	477	1107
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.34	0.18	0.23	0.25	0.10	0.08	0.11	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	456	105	55	331	24	86	114	74	49	210	114
Future Volume (vph)	108	456	105	55	331	24	86	114	74	49	210	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3440		1770	3503		1770	1863	1583	1770	1764	
Flt Permitted	0.44	1.00		0.32	1.00		0.33	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	824	3440		589	3503		609	1863	1583	1262	1764	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	496	114	60	360	26	93	124	80	53	228	124
RTOR Reduction (vph)	0	17	0	0	5	0	0	0	54	0	18	0
Lane Group Flow (vph)	117	593	0	60	381	0	93	124	26	53	334	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	28.3	21.4		24.9	19.7		31.7	25.9	25.9	26.1	23.1	
Effective Green, g (s)	28.3	21.4		24.9	19.7		31.7	25.9	25.9	26.1	23.1	
Actuated g/C Ratio	0.36	0.27		0.31	0.25		0.40	0.33	0.33	0.33	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	375	925		261	868		327	606	515	433	512	
v/s Ratio Prot	c0.03	c0.17		0.01	0.11		c0.02	0.07		0.00	c0.19	
v/s Ratio Perm	0.08			0.06			c0.09		0.02	0.04		
v/c Ratio	0.31	0.64		0.23	0.44		0.28	0.20	0.05	0.12	0.65	
Uniform Delay, d1	17.7	25.7		19.6	25.2		15.9	19.4	18.4	18.5	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	1.5		0.5	0.4		0.5	0.2	0.0	0.1	3.0	
Delay (s)	18.2	27.2		20.0	25.6		16.4	19.5	18.4	18.6	27.6	
Level of Service	B	C		C	C		B	B	B	B	C	
Approach Delay (s)		25.7			24.8			18.3			26.5	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	586	19	13	403	7	6	2	12	3	9	14
Future Volume (Veh/h)	11	586	19	13	403	7	6	2	12	3	9	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	637	21	14	438	8	7	2	13	3	10	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		661										
pX, platoon unblocked				0.90			0.90	0.90	0.90	0.90	0.90	
vC, conflicting volume	446			658			938	1146	329	826	1152	223
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446			408			719	948	44	595	955	223
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			97	99	99	99	96	98
cM capacity (veh/h)	1111			1037			266	229	919	337	227	780

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	330	340	233	227	22	28
Volume Left	12	0	14	0	7	3
Volume Right	0	21	0	8	13	15
cSH	1111	1700	1037	1700	447	388
Volume to Capacity	0.01	0.20	0.01	0.13	0.05	0.07
Queue Length 95th (ft)	1	0	1	0	4	6
Control Delay (s)	0.4	0.0	0.6	0.0	13.5	15.0
Lane LOS	A		A		B	C
Approach Delay (s)	0.2		0.3		13.5	15.0
Approach LOS					B	C

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	34.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	160	2	3	124	35	1	0	1	19	0	41
Future Volume (Veh/h)	56	160	2	3	124	35	1	0	1	19	0	41
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	174	2	3	135	38	1	0	1	21	0	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	173			176			502	476	175	458	458	154
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	173			176			502	476	175	458	458	154
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	96	100	95
cM capacity (veh/h)	1404			1400			440	466	868	495	477	892

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	237	176	2	66
Volume Left	61	3	1	21
Volume Right	2	38	1	45
cSH	1404	1400	584	710
Volume to Capacity	0.04	0.00	0.00	0.09
Queue Length 95th (ft)	3	0	0	8
Control Delay (s)	2.3	0.1	11.2	10.6
Lane LOS	A	A	B	B
Approach Delay (s)	2.3	0.1	11.2	10.6
Approach LOS			B	B

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	34.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	168	667	109	729	87	303	108	75	399
v/c Ratio	0.51	0.58	0.34	0.73	0.34	0.57	0.18	0.23	0.77
Control Delay	21.7	28.6	19.9	36.3	23.1	34.5	0.7	20.8	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	28.6	19.9	36.3	23.1	34.5	0.7	20.8	40.3
Queue Length 50th (ft)	57	170	35	205	32	158	0	28	208
Queue Length 95th (ft)	122	273	83	335	71	267	0	63	349
Internal Link Dist (ft)		1163		581		669			739
Turn Bay Length (ft)	160		100		130		130	130	
Base Capacity (vph)	407	1609	332	1337	253	904	866	323	867
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.41	0.33	0.55	0.34	0.34	0.12	0.23	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	521	93	100	611	60	80	279	99	69	226	141
Future Volume (vph)	155	521	93	100	611	60	80	279	99	69	226	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3459		1770	3492		1770	1863	1583	1770	1756	
Flt Permitted	0.18	1.00		0.32	1.00		0.27	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	327	3459		596	3492		496	1863	1583	766	1756	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	566	101	109	664	65	87	303	108	75	246	153
RTOR Reduction (vph)	0	12	0	0	6	0	0	0	78	0	21	0
Lane Group Flow (vph)	168	655	0	109	723	0	87	303	30	75	378	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	41.9	30.1		33.9	26.1		30.6	26.1	26.1	30.6	26.1	
Effective Green, g (s)	41.9	30.1		33.9	26.1		30.6	26.1	26.1	30.6	26.1	
Actuated g/C Ratio	0.45	0.33		0.37	0.28		0.33	0.28	0.28	0.33	0.28	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	332	1125		317	985		226	525	446	302	495	
v/s Ratio Prot	c0.06	c0.19		0.03	c0.21		c0.02	0.16		0.01	c0.22	
v/s Ratio Perm	0.16			0.10			0.11		0.02	0.07		
v/c Ratio	0.51	0.58		0.34	0.73		0.38	0.58	0.07	0.25	0.76	
Uniform Delay, d1	17.1	26.0		19.9	30.1		22.8	28.5	24.3	21.9	30.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.2	0.8		0.7	2.9		1.1	1.5	0.1	0.4	6.9	
Delay (s)	18.3	26.7		20.6	32.9		23.9	30.0	24.4	22.4	37.3	
Level of Service	B	C		C	C		C	C	C	C	D	
Approach Delay (s)		25.0			31.3			27.7			34.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	92.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	593	25	25	738	12	10	1	14	3	0	13
Future Volume (Veh/h)	21	593	25	25	738	12	10	1	14	3	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	645	27	27	802	13	11	1	15	3	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		661										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	815			672			1174	1574	336	1246	1580	408
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	815			397			958	1405	21	1039	1413	408
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			97			94	99	98	98	100	98
cM capacity (veh/h)	808			1036			177	117	940	155	116	593

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	346	350	428	414	27	17
Volume Left	23	0	27	0	11	3
Volume Right	0	27	0	13	15	14
cSH	808	1700	1036	1700	312	396
Volume to Capacity	0.03	0.21	0.03	0.24	0.09	0.04
Queue Length 95th (ft)	2	0	2	0	7	3
Control Delay (s)	1.0	0.0	0.8	0.0	17.6	14.5
Lane LOS	A		A		C	B
Approach Delay (s)	0.5		0.4		17.6	14.5
Approach LOS					C	B

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	49.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	253	0	0	274	26	1	0	3	42	0	76
Future Volume (Veh/h)	36	253	0	0	274	26	1	0	3	42	0	76
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	275	0	0	298	28	1	0	3	46	0	83
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	326			275			748	679	275	668	665	312
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	326			275			748	679	275	668	665	312
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	87	100	89
cM capacity (veh/h)	1234			1288			284	362	764	361	369	728

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	314	326	4	129
Volume Left	39	0	1	46
Volume Right	0	28	3	83
cSH	1234	1288	537	535
Volume to Capacity	0.03	0.00	0.01	0.24
Queue Length 95th (ft)	2	0	1	23
Control Delay (s)	1.3	0.0	11.8	13.9
Lane LOS	A		B	B
Approach Delay (s)	1.3	0.0	11.8	13.9
Approach LOS			B	B

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	52.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	117	629	66	441	93	124	87	63	352
v/c Ratio	0.29	0.63	0.21	0.48	0.26	0.22	0.15	0.13	0.67
Control Delay	18.4	29.4	18.1	28.9	17.2	24.7	1.7	16.1	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	29.4	18.1	28.9	17.2	24.7	1.7	16.1	32.8
Queue Length 50th (ft)	36	147	20	101	28	49	0	19	154
Queue Length 95th (ft)	84	244	53	176	66	103	10	48	281
Internal Link Dist (ft)		1163		372		669			739
Turn Bay Length (ft)	160		100		130		130	130	
Base Capacity (vph)	453	1789	333	1651	371	1186	1057	476	1100
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.35	0.20	0.27	0.25	0.10	0.08	0.13	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	474	105	61	364	41	86	114	80	58	210	114
Future Volume (vph)	108	474	105	61	364	41	86	114	80	58	210	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3443		1770	3485		1770	1863	1583	1770	1764	
Flt Permitted	0.40	1.00		0.31	1.00		0.33	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	743	3443		569	3485		624	1863	1583	1262	1764	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	515	114	66	396	45	93	124	87	63	228	124
RTOR Reduction (vph)	0	16	0	0	7	0	0	0	61	0	19	0
Lane Group Flow (vph)	117	613	0	66	434	0	93	124	26	63	333	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	28.8	21.9		25.6	20.3		29.3	23.6	23.6	26.5	22.2	
Effective Green, g (s)	28.8	21.9		25.6	20.3		29.3	23.6	23.6	26.5	22.2	
Actuated g/C Ratio	0.36	0.28		0.32	0.26		0.37	0.30	0.30	0.34	0.28	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	360	953		264	894		313	555	472	450	495	
v/s Ratio Prot	c0.03	c0.18		0.02	0.12		c0.02	0.07		0.01	c0.19	
v/s Ratio Perm	0.09			0.06			0.09		0.02	0.04		
v/c Ratio	0.33	0.64		0.25	0.48		0.30	0.22	0.05	0.14	0.67	
Uniform Delay, d1	17.3	25.2		19.0	25.0		17.1	20.9	19.8	18.1	25.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	1.5		0.5	0.4		0.5	0.2	0.0	0.1	3.6	
Delay (s)	17.8	26.7		19.5	25.4		17.7	21.1	19.8	18.3	28.8	
Level of Service	B	C		B	C		B	C	B	B	C	
Approach Delay (s)		25.3			24.6			19.7			27.2	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	625	24	6	429	50	17
Future Volume (Veh/h)	625	24	6	429	50	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	679	26	7	466	54	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	452					
pX, platoon unblocked			0.88		0.88	0.88
vC, conflicting volume			705		939	352
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			383		650	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		85	98
cM capacity (veh/h)			1028		350	951

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	453	252	162	311	72
Volume Left	0	0	7	0	54
Volume Right	0	26	0	0	18
cSH	1700	1700	1028	1700	416
Volume to Capacity	0.27	0.15	0.01	0.18	0.17
Queue Length 95th (ft)	0	0	1	0	15
Control Delay (s)	0.0	0.0	0.4	0.0	15.5
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		15.5
Approach LOS					C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	603	28	22	409	7	12	2	23	3	9	14
Future Volume (Veh/h)	11	603	28	22	409	7	12	2	23	3	9	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	655	30	24	445	8	13	2	25	3	10	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		661										
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	453			685			984	1195	342	874	1206	226
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	453			447			778	1010	70	656	1022	226
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			95	99	97	99	95	98
cM capacity (veh/h)	1104			1006			239	209	888	299	205	776

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	340	358	246	230	40	28
Volume Left	12	0	24	0	13	3
Volume Right	0	30	0	8	25	15
cSH	1104	1700	1006	1700	434	359
Volume to Capacity	0.01	0.21	0.02	0.14	0.09	0.08
Queue Length 95th (ft)	1	0	2	0	8	6
Control Delay (s)	0.4	0.0	1.1	0.0	14.1	15.9
Lane LOS	A		A		B	C
Approach Delay (s)	0.2		0.5		14.1	15.9
Approach LOS					B	C

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	39.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	28	12	91	60	18
Future Volume (Veh/h)	17	28	12	91	60	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	30	13	99	65	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	200	75	85			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200	75	85			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	97	99			
cM capacity (veh/h)	782	986	1512			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	48	112	85
Volume Left	18	13	0
Volume Right	30	0	20
cSH	898	1512	1700
Volume to Capacity	0.05	0.01	0.05
Queue Length 95th (ft)	4	1	0
Control Delay (s)	9.2	0.9	0.0
Lane LOS	A	A	
Approach Delay (s)	9.2	0.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	160	2	3	124	38	1	0	1	25	0	63
Future Volume (Veh/h)	65	160	2	3	124	38	1	0	1	25	0	63
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	174	2	3	135	41	1	0	1	27	0	68
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	176			176			546	499	175	480	480	156
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	176			176			546	499	175	480	480	156
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	100	94	100	92
cM capacity (veh/h)	1400			1400			397	448	868	476	460	890

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	247	179	2	95
Volume Left	71	3	1	27
Volume Right	2	41	1	68
cSH	1400	1400	545	714
Volume to Capacity	0.05	0.00	0.00	0.13
Queue Length 95th (ft)	4	0	0	11
Control Delay (s)	2.5	0.1	11.6	10.8
Lane LOS	A	A	B	B
Approach Delay (s)	2.5	0.1	11.6	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	36.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	168	709	113	767	87	303	122	96	399
v/c Ratio	0.52	0.61	0.36	0.75	0.35	0.58	0.22	0.30	0.77
Control Delay	22.1	29.7	20.1	36.7	23.9	35.2	4.9	22.6	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	29.7	20.1	36.7	23.9	35.2	4.9	22.6	41.2
Queue Length 50th (ft)	57	187	37	221	33	161	0	37	213
Queue Length 95th (ft)	123	298	86	357	72	270	34	78	354
Internal Link Dist (ft)		1163		372		669			739
Turn Bay Length (ft)	160		100		130		130	130	
Base Capacity (vph)	398	1581	335	1350	248	866	808	319	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.45	0.34	0.57	0.35	0.35	0.15	0.30	0.48

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	559	93	104	634	72	80	279	112	88	226	141
Future Volume (vph)	155	559	93	104	634	72	80	279	112	88	226	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3464		1770	3485		1770	1863	1583	1770	1756	
Flt Permitted	0.16	1.00		0.28	1.00		0.26	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	306	3464		528	3485		490	1863	1583	760	1756	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	608	101	113	689	78	87	303	122	96	246	153
RTOR Reduction (vph)	0	11	0	0	7	0	0	0	88	0	20	0
Lane Group Flow (vph)	168	698	0	113	760	0	87	303	34	96	379	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	42.7	30.9		35.7	27.4		31.0	26.5	26.5	31.0	26.5	
Effective Green, g (s)	42.7	30.9		35.7	27.4		31.0	26.5	26.5	31.0	26.5	
Actuated g/C Ratio	0.45	0.33		0.38	0.29		0.33	0.28	0.28	0.33	0.28	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	322	1136		309	1013		222	524	445	298	493	
v/s Ratio Prot	c0.07	c0.20		0.03	c0.22		c0.02	0.16		0.02	c0.22	
v/s Ratio Perm	0.17			0.11			0.11		0.02	0.09		
v/c Ratio	0.52	0.61		0.37	0.75		0.39	0.58	0.08	0.32	0.77	
Uniform Delay, d1	17.6	26.6		19.7	30.3		23.3	29.1	24.9	22.8	31.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	1.0		0.7	3.2		1.1	1.6	0.1	0.6	7.1	
Delay (s)	19.1	27.6		20.5	33.5		24.5	30.6	24.9	23.4	38.1	
Level of Service	B	C		C	C		C	C	C	C	D	
Approach Delay (s)		26.0			31.8			28.2			35.3	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	94.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	708	50	13	775	35	12
Future Volume (Veh/h)	708	50	13	775	35	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	770	54	14	842	38	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	452					
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			824		1246	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			443		939	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		83	99
cM capacity (veh/h)			948		220	923

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	513	311	295	561	51
Volume Left	0	0	14	0	38
Volume Right	0	54	0	0	13
cSH	1700	1700	948	1700	273
Volume to Capacity	0.30	0.18	0.01	0.33	0.19
Queue Length 95th (ft)	0	0	1	0	17
Control Delay (s)	0.0	0.0	0.6	0.0	21.2
Lane LOS			A		C
Approach Delay (s)	0.0		0.2		21.2
Approach LOS					C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	605	44	44	751	12	14	1	22	3	0	13
Future Volume (Veh/h)	21	605	44	44	751	12	14	1	22	3	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	658	48	48	816	13	15	1	24	3	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		661										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	829			706			1246	1653	353	1318	1670	414
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	829			433			1037	1493	38	1118	1512	414
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			90	99	97	98	100	98
cM capacity (veh/h)	798			1004			152	101	916	132	98	587

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	352	377	456	421	40	17
Volume Left	23	0	48	0	15	3
Volume Right	0	48	0	13	24	14
cSH	798	1700	1004	1700	297	365
Volume to Capacity	0.03	0.22	0.05	0.25	0.13	0.05
Queue Length 95th (ft)	2	0	4	0	11	4
Control Delay (s)	1.0	0.0	1.4	0.0	19.0	15.4
Lane LOS	A		A		C	C
Approach Delay (s)	0.5		0.7		19.0	15.4
Approach LOS					C	C

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	55.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	19	25	72	118	38
Future Volume (Veh/h)	12	19	25	72	118	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	21	27	78	128	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	280	148	169			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	280	148	169			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	98			
cM capacity (veh/h)	696	898	1409			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	34	105	169
Volume Left	13	27	0
Volume Right	21	0	41
cSH	808	1409	1700
Volume to Capacity	0.04	0.02	0.10
Queue Length 95th (ft)	3	1	0
Control Delay (s)	9.6	2.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.6	2.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	253	0	0	274	42	1	0	3	46	0	92
Future Volume (Veh/h)	55	253	0	0	274	42	1	0	3	46	0	92
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	275	0	0	298	46	1	0	3	50	0	100
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	344			275			816	739	275	719	716	321
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	344			275			816	739	275	719	716	321
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	100	85	100	86
cM capacity (veh/h)	1215			1288			245	328	764	329	338	720

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	335	344	4	150
Volume Left	60	0	1	50
Volume Right	0	46	3	100
cSH	1215	1288	499	516
Volume to Capacity	0.05	0.00	0.01	0.29
Queue Length 95th (ft)	4	0	1	30
Control Delay (s)	1.8	0.0	12.3	14.8
Lane LOS	A		B	B
Approach Delay (s)	1.8	0.0	12.3	14.8
Approach LOS			B	B

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	55.6%	ICU Level of Service	B	
Analysis Period (min)	15			

July 14, 2017
Revised August 8, 2017

City of Mission
Planning & Zoning Department
6090 Woodson
Mission, KS 66202

RE: Mission Trails FDP – Final Stormwater Summary

Dear City:

This letter summarizes final stormwater calculations to support the proposed Mission Trails mixed use project at 6201 Johnson Drive. The project includes retail, multi-story residential, and a parking garage.

An existing one story building and surface parking lot is located on the 2.82 acre site. Most of the site discharges to the southeast to storm infrastructure along Beverly Avenue. The remainder drains to curb inlets on the south side of Johnson Drive. Approximately 0.52 acres of offsite drainage area from the Salvation Army site to the west drains onto the site. Much of the site is covered with impervious building, parking, and walking surfaces, resulting in 2.30 acres or 81.6% of the total site area. The underlying soils are Sharpsburg-Urban land complex, 4 to 8 percent slopes, with a hydrologic soil group rating of C. The hydrologic soil group rating has been downgraded to D soils, to account for significant previous development on the site. See attached Exhibit A for a delineation of existing pervious area and drainage boundaries. The site lies within flood zone X (areas outside the limits of the 0.2% annual chance floodplain); see attached Exhibit B for a FEMA flood insurance rate map.

The proposed condition removes the existing building and parking lot. The proposed multi-story building with courtyard and parking garage will cover 1.98 acres of the site, with open space, sidewalks, and surface parking accounting for the balance of 0.84 acres. The proposed impervious area is 2.33 acres or 82.6% of the total site area. This is a modest increase in impervious area over existing conditions of 1,152 square feet. As the incremental increase in impervious area is less than 5,000 square feet for this redevelopment project, APWA 5600 allows an exemption from stormwater detention requirements. This exemption also extends to the inclusion of MARC Best Management Practices (BMP's) for Stormwater Quality on the project. Therefore no stormwater detention or BMP's are proposed for this project. See attached Exhibit C for a delineation of proposed pervious area and drainage boundaries.

The table below summarizes the peak site discharge rate for existing and proposed conditions, for a SCS Type II 24-hour rainfall. There is not a significant enough change in impervious area to change the CN between existing and proposed conditions. The proposed impervious area calculations do account for 3,820 square feet of pervious area within the courtyard area.

Condition	Area (ac)	CN	Tc (min)	Peak Discharge		
				50% storm (cfs)	10% storm (cfs)	1% storm (cfs)
Existing	2.82	95 (94.68)	5	13.15	19.87	30.03
Proposed	2.82	95 (94.87)	5	13.15	19.87	30.03

11250 Corporate Avenue, Lenexa, KS 66219 **Office** 913.888.7800 **Fax** 913.888.7868 www.skw-inc.com

All of the flow from the proposed building, parking garage, and offsite tributary runoff from the Salvation Army site will be captured in enclosed storm sewer systems and piped to the existing storm sewer infrastructure on Beverly Avenue. A swale is provided along the south side of the property to convey runoff from the 0.85 acre drainage area west and south of the building, should the enclosed storm sewer become clogged. The area north of the building will surface drain to Johnson Drive, as it does in the existing condition. See attached Hydraflow Hydrographs Report for summary of peak discharge rate calculations, and attached Bentley Flowmaster Report for a summary of the south swale capacity for the 1% storm event and full flow swale capacity. The cross section for the swale calculation is conservatively located near the southwest corner of the building where the running swale slope is the lowest. The swale capacity increases further downstream to the east where the running slope increases and the sideslopes become flatter.

An emergency overflow pipe is proposed from the internal courtyard area to the swale on the south side of the property. This backup measure provides redundancy in the event the internal courtyard storm conveyance system or downstream receiving system becomes clogged, to provide an additional protection measure for residences and businesses on the first floor of the building.

The site discharges to an existing 5'x5' box culvert at Beverly Avenue. The size is derived from AIMS data and the outfall pipe measurement at Rock Creek, as the box itself is not accessible from the Beverly Avenue curb inlets. The Johnson Drive Improvement project added a 7'x6' box culvert along Johnson Drive, and redirected approximately 75 acres of watershed north of Johnson Drive that used to discharge to the Mission Trails site outfall. Therefore the 5'x5' box culvert currently only receives approximately 3.9 acres of tributary area (project site + bar) at the site outfall location, with a peak 1% storm flow rate of 41.5 cfs. The box culvert has a full flow manning's capacity of 487.33 cfs across Beverly, therefore the downstream storm system in the vicinity of this site has sufficient capacity. See attached Bentley Flowmaster Report for a summary of the box culvert capacity calculation.

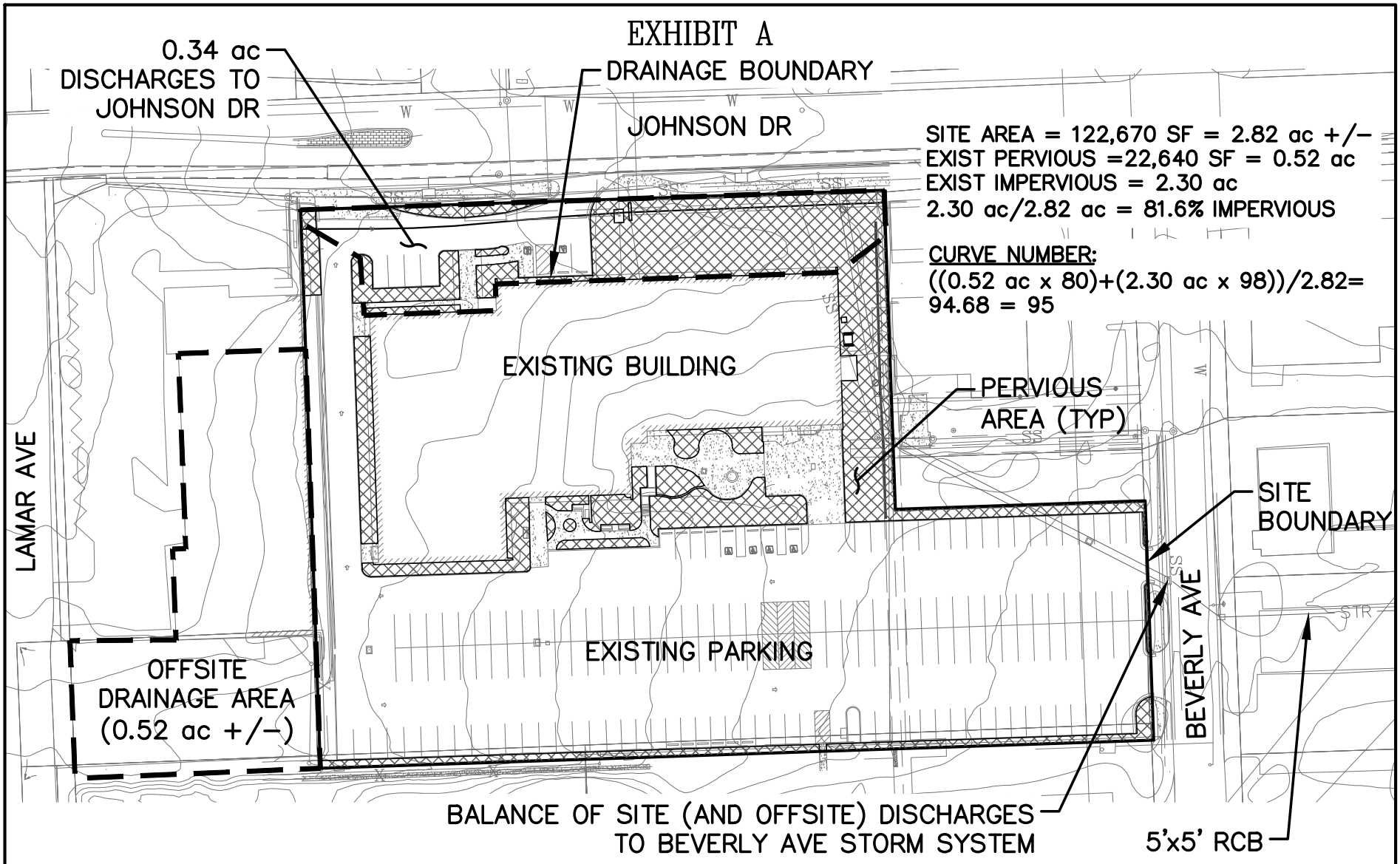
Please contact Matt Kist, P.E., or Dan McGhee, P.E., should you have any questions regarding this letter.

SHAFER, KLINE & WARREN, INC.

Enclosure(s)

#170249-010

EXHIBIT A



SHAFER, KLINE & WARREN
11250 Corporate Avenue
Lenexa, KS 66219-1392
913.888.7800 FAX: 913.888.7868
SURVEYING | ENGINEERING | CONSTRUCTION

PROJECT NO.170249-010	DATE:05/12/17	BY:MDM

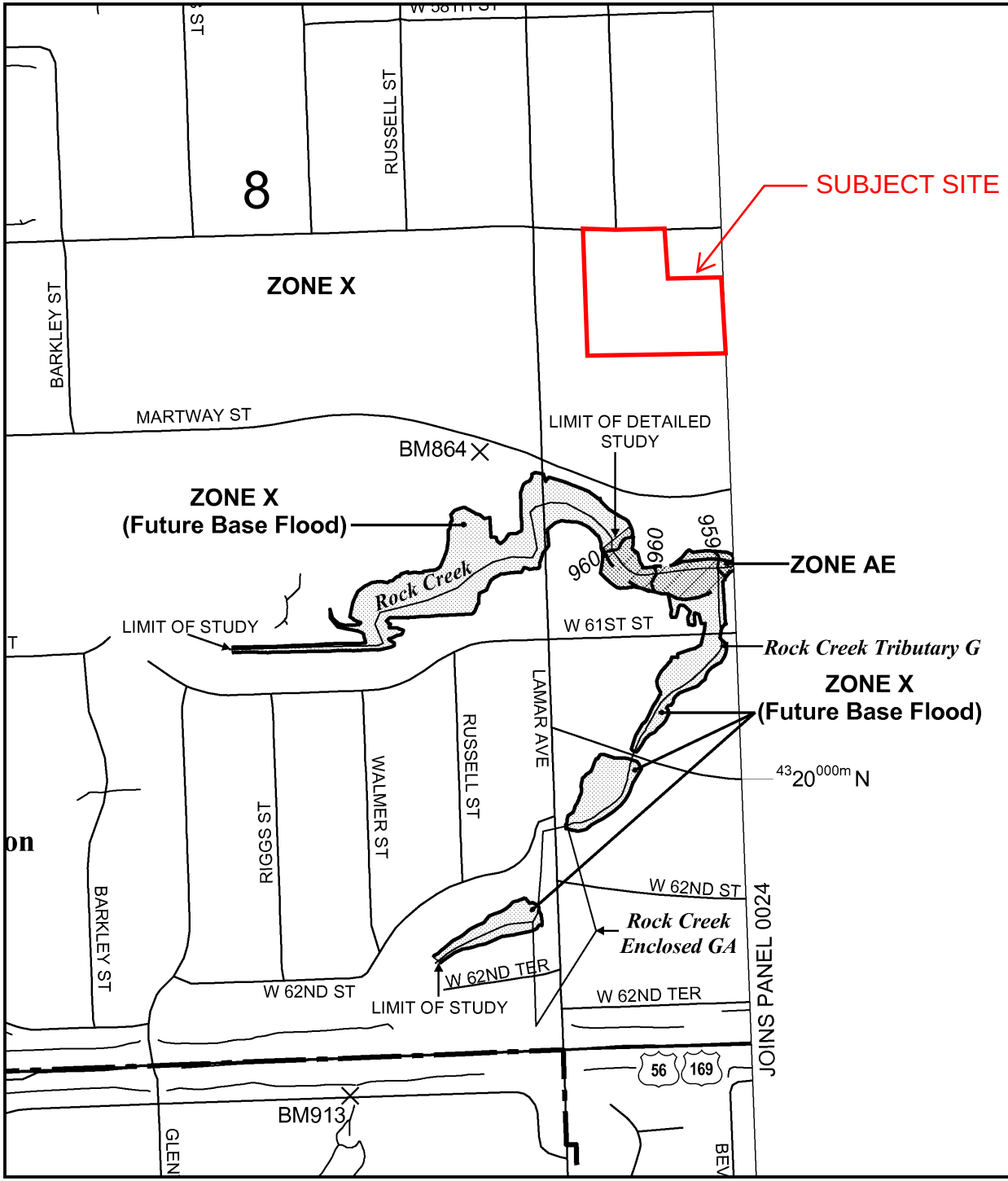
PERVIOUS AREA

NORTH

SCALE: 1"=80'

80 40 0 80

EXISTING CONDITIONS



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METE

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0023G

FIRM

FLOOD INSURANCE RATE MAP

JOHNSON COUNTY, KANSAS
AND INCORPORATED AREAS

PANEL 23 OF 161

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MERRIAM, CITY OF	200169	0023	G
MISSION, CITY OF	200170	0023	G
OVERLAND PARK, CITY OF	200174	0023	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

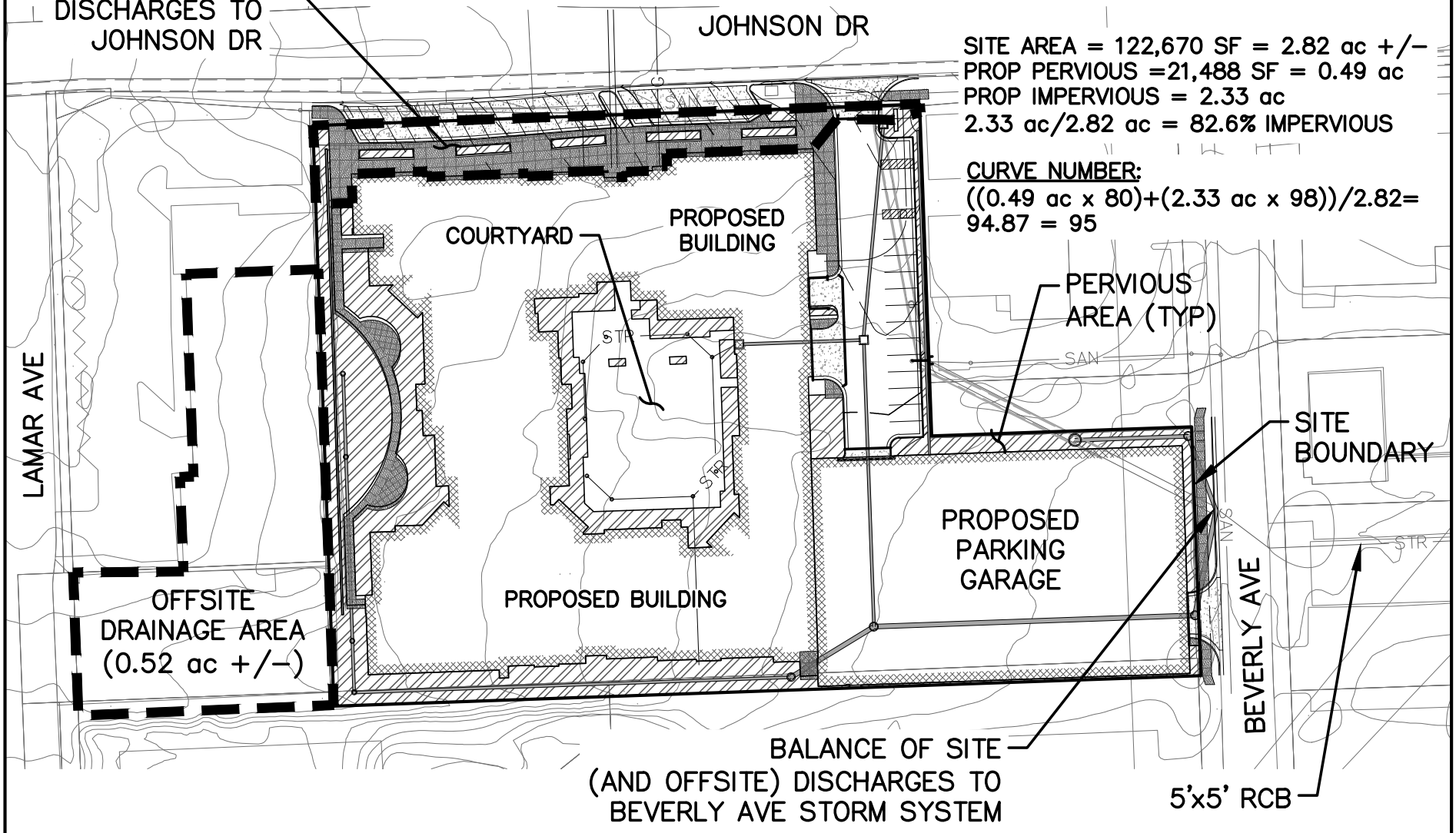
MAP NUMBER
20091C0023G

MAP REVISED
AUGUST 3, 2009

Federal Emergency Management Agency

EXHIBIT B

EXHIBIT C



SHAFER, KLINE & WARREN
11250 Corporate Avenue
Lenexa, KS 66219-1392
913.888.7800 FAX: 913.888.7868
SURVEYING | ENGINEERING | CONSTRUCTION

PROJECT NO.170249-010	DATE:07/14/17	BY:MDM

PERVIOUS AREA

PROPOSED CONDITIONS

NORTH

SCALE: 1"=80'

80 40 0 80

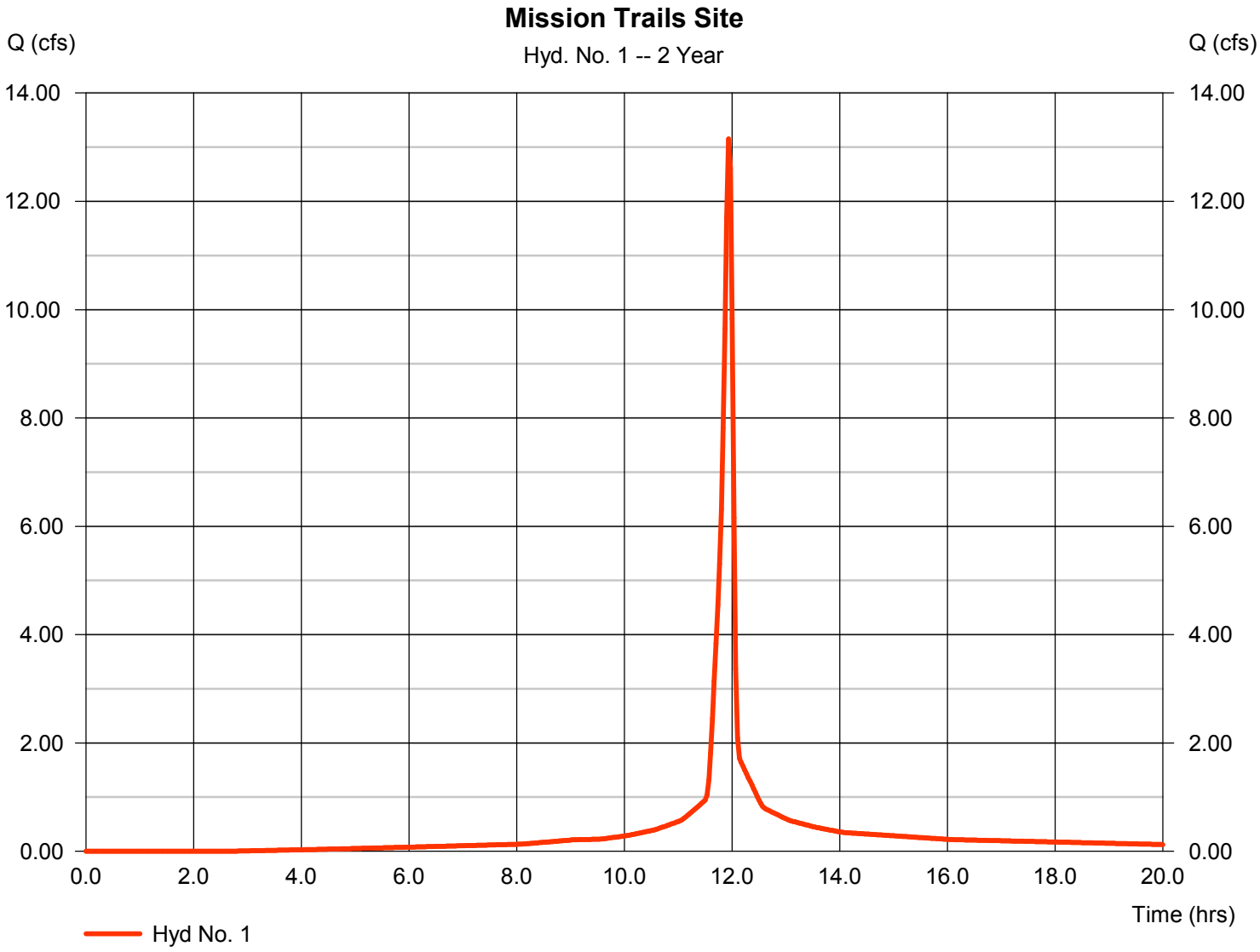
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Monday, 04 / 10 / 2017

Hyd. No. 1

Mission Trails Site

Hydrograph type	= SCS Runoff	Peak discharge	= 13.15 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 29,148 cuft
Drainage area	= 2.820 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.60 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

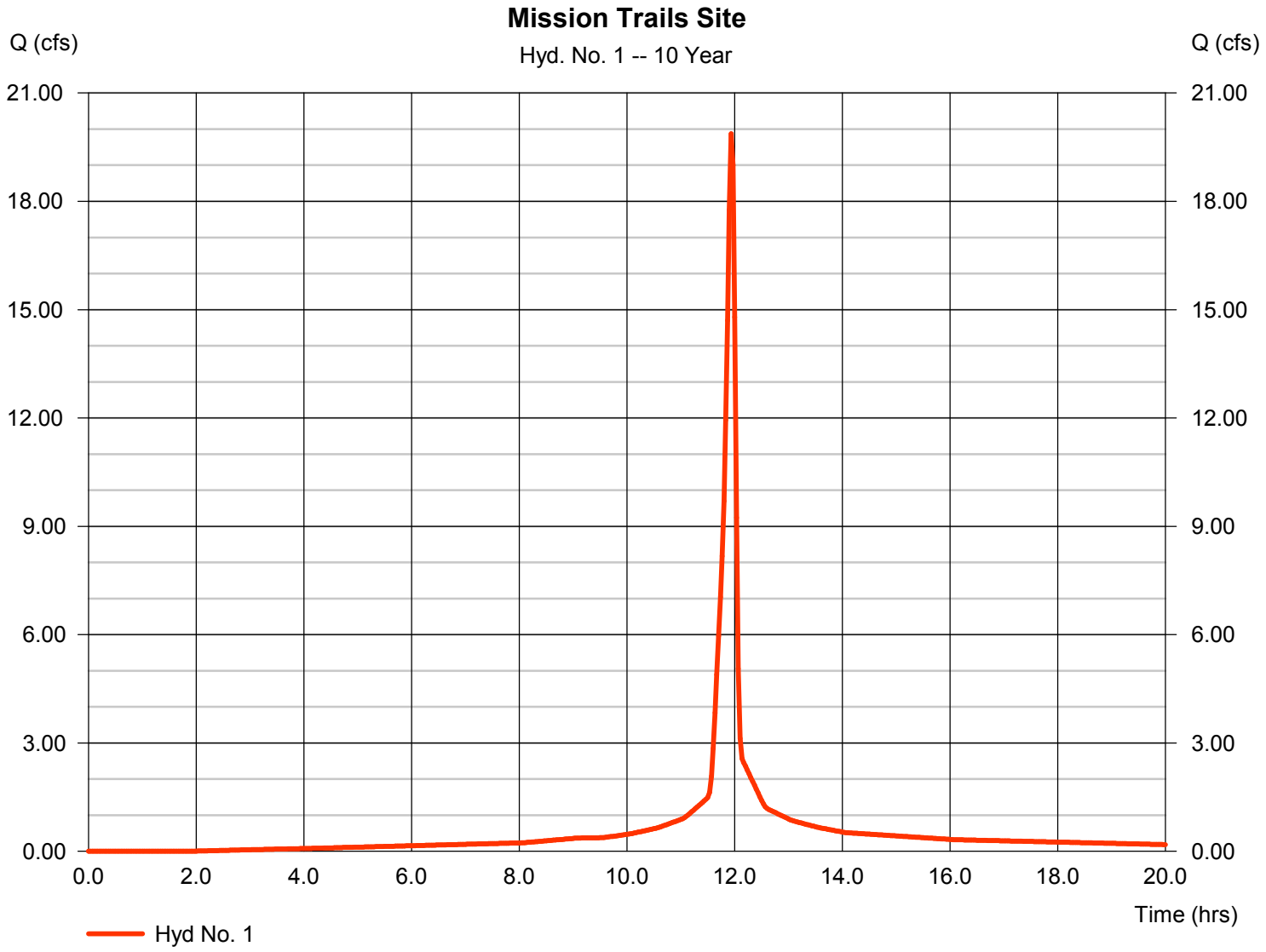


Hydrograph Report

Hyd. No. 1

Mission Trails Site

Hydrograph type	= SCS Runoff	Peak discharge	= 19.87 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 45,267 cuft
Drainage area	= 2.820 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.30 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

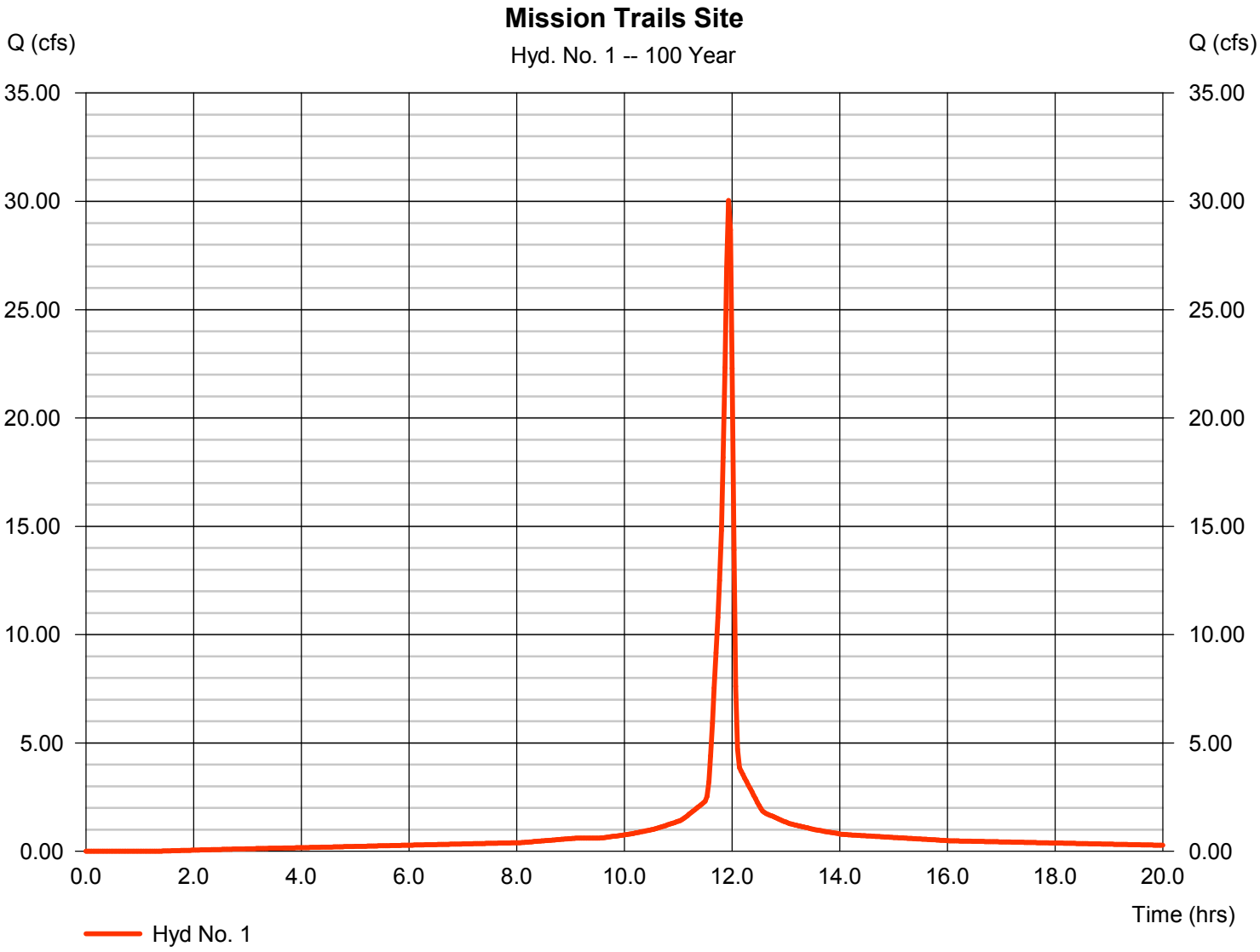


Hydrograph Report

Hyd. No. 1

Mission Trails Site

Hydrograph type	= SCS Runoff	Peak discharge	= 30.03 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 70,073 cuft
Drainage area	= 2.820 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



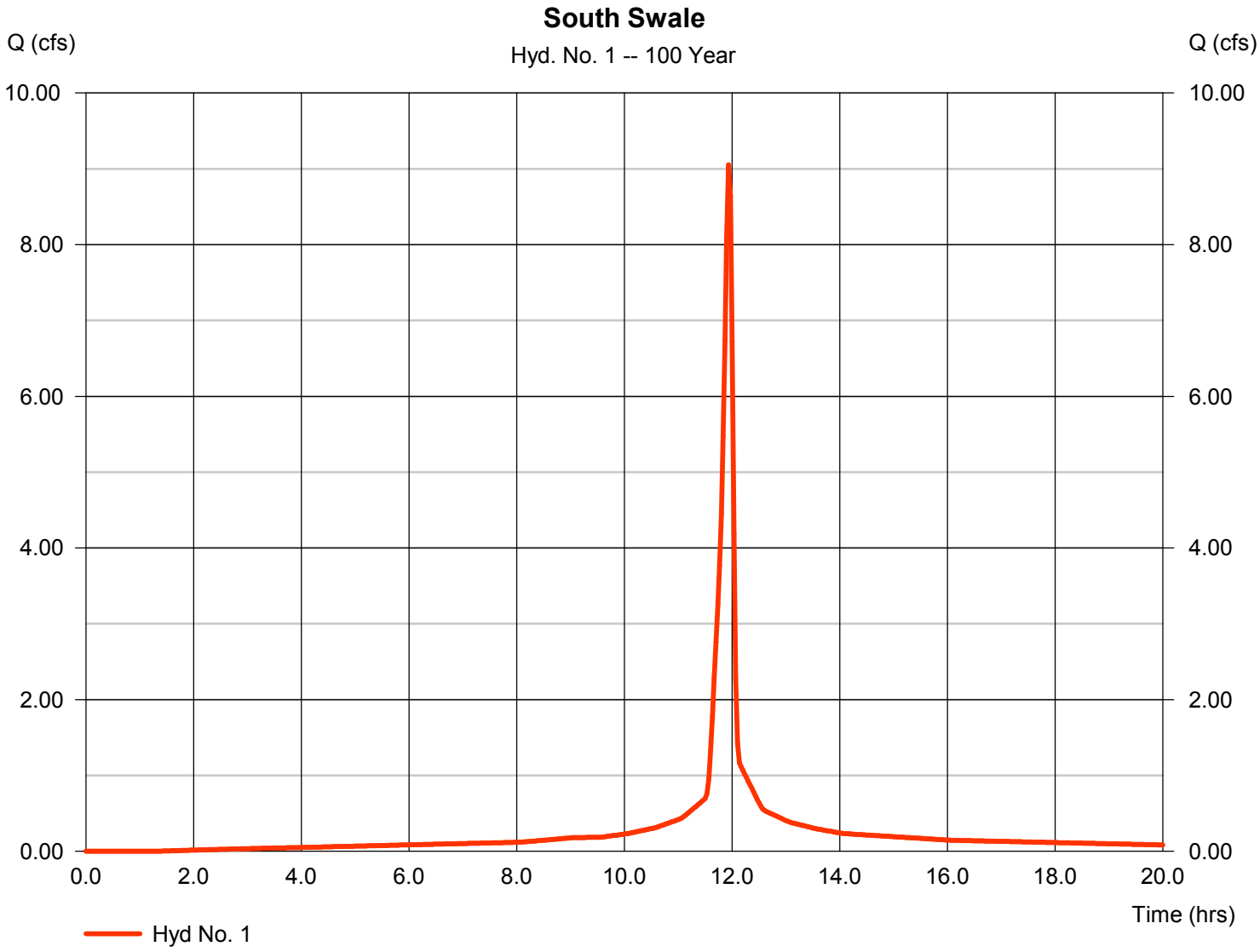
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Tuesday, 08 / 8 / 2017

Hyd. No. 1

South Swale

Hydrograph type	= SCS Runoff	Peak discharge	= 9.053 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 21,121 cuft
Drainage area	= 0.850 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



South Swale Depth - 1% Storm

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	2.25000	%
Left Side Slope	4.00	H:V
Right Side Slope	3.00	H:V
Bottom Width	4.00	ft
Discharge	9.05	ft³/s

Results

Normal Depth	0.45	ft
Flow Area	2.49	ft²
Wetted Perimeter	7.26	ft
Hydraulic Radius	0.34	ft
Top Width	7.13	ft
Critical Depth	0.47	ft
Critical Slope	0.01883	ft/ft
Velocity	3.64	ft/s
Velocity Head	0.21	ft
Specific Energy	0.65	ft
Froude Number	1.09	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.45	ft
Critical Depth	0.47	ft
Channel Slope	2.25000	%

South Swale Depth - 1% Storm

GVF Output Data

Critical Slope	0.01883	ft/ft

South Swale - Full Flow Capcity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.030	
Channel Slope	2.25000	%
Normal Depth	1.00	ft
Left Side Slope	4.00	H:V
Right Side Slope	3.00	H:V
Bottom Width	4.00	ft

Results

Discharge	42.43	ft³/s
Flow Area	7.50	ft²
Wetted Perimeter	11.29	ft
Hydraulic Radius	0.66	ft
Top Width	11.00	ft
Critical Depth	1.10	ft
Critical Slope	0.01502	ft/ft
Velocity	5.66	ft/s
Velocity Head	0.50	ft
Specific Energy	1.50	ft
Froude Number	1.21	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.00	ft
Critical Depth	1.10	ft
Channel Slope	2.25000	%

South Swale - Full Flow Capcity

GVF Output Data

Critical Slope	0.01502	ft/ft

Existing 5'x5' RCB Capacity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.02160	ft/ft
Normal Depth	5.00	ft
Height	5.00	ft
Bottom Width	5.00	ft

Results

Discharge	487.29	ft^3/s
Flow Area	25.00	ft^2
Wetted Perimeter	20.00	ft
Hydraulic Radius	1.25	ft
Top Width	5.00	ft
Critical Depth	6.66	ft
Percent Full	100.0	%
Critical Slope	0.00739	ft/ft
Velocity	19.49	ft/s
Velocity Head	5.90	ft
Specific Energy	10.90	ft
Froude Number	1.54	
Discharge Full	487.29	ft^3/s
Slope Full	0.02160	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s

Existing 5'x5' RCB Capacity

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	5.00	ft
Critical Depth	6.66	ft
Channel Slope	0.02160	ft/ft
Critical Slope	0.00739	ft/ft

MISSION TRAILS
PRIVATE SIGN CRITERIA
Created: July 17, 2017
Revised: August 23, 2017

Sign Types and Parameters

Mission Trails is a mixed use residential complex with restaurant and retail opportunities along Johnson Drive. There are five signage types. Wall Signs for the corner restaurant area which has an internal courtyard with both interior and exterior signage opportunities at the street frontage of the courtyard and inteior façade. Development identification both wall and monument signs. Wall signs for the standard business entryways. Blade, projected and temporary signes for the pedestrian identification scale.

This sign criteria is intended to provide a framework to encourage creative and imaginative signage design which both enhance the project and Business identification but also the overall customer experience. All signage must fit comfortably within the signage area and may not abut or infringe upon the Architectural Elements such as wall steps arches or transitions.

The Tenant signage shall be proportional to the scale of the façade design. The overall height to width of the signage area will be reviewed for its relationship to the building elevation on which it is installed.

Tenants shall provide design information for all signage on all preliminary and working drawings submitted to the Landlord. Final approval of Tenant's signage is contingent upon the Landlord approval of the shop drawings followed by approval from the City of Mission, KS.

General Sign Parameters

- Each Business with corner locations shall be permitted two wall-signs, no more than one per façade with a maximum of two (2), not to exceed 10% of each wall area.
- Wall area is defined as the width of the lease frontage multiplied by the height of the storefront from finished floor to the second floor line, in the case of the west business frontage and from finish floor to the third floor line from the corner courtyard public area.
- Signage area is defined as the maximum height of any single letter multiplied by the maximum width of the sign enclosed in a rectangle box with four (4) lines.
- Non-halo illuminated letters shall be 5" deep minimum with a maximum overall partial depth of 8"
- The minimum thickness of halo illuminated letters shall be 3" and they shall be discreetly pegged out from the wall with a maximum overall depth of 6".
- Signs may be illuminated- direct or indirect lighting and should derive light from a concealed source. No exposed lamps, globes, tubes, etc. will be permitted. No exposed wiring, conduits or raceways shall be permitted. Raceways are permitted for support and power for above metal canopy signs
- All electric signs and installation methods must meet UL standards and contain a UL label.

- All illuminated signs must be turned on during normal operating hours. The use of time clocks for sign and show window lighting is required.

- All signs require a sign permit and approval from the City prior to fabrication and must be submitted with the complete signage package.

- Any sign, notice, or other graphic or video display, particularly self-illuminated signs, located within the storefront or that is easily visible from the public is subject to review and approval and is regulated as signage.

- Manufacturers' labels, underwriters' labels, clips, brackets, or any other form of extraneous advertising attachment or lighting devices shall be fully concealed from public view. Labels installed on sign returns are not permitted.

- No exposed lamps or tubing will be permitted.

- All signage returns shall either match face color of sign or blend with adjacent building color, or be black.

- Acrycap or trimcap retainers used at the perimeter of sign letter faces shall match in color and finish the face or the sides of the sign.

- All cabinets, conductors, transformers and other equipment shall be concealed from public areas; visible fasteners will not be permitted.

- All metal letters shall be fabricated using full-welded construction, with all welds ground smooth so as not to be visible.

- Threaded rods or anchor bolts shall be used to mount sign letters that are spaced out from the building face. Angle clips attached to letter sides will not be permitted. All mounting attachments shall be sleeved and painted.

- Informational signage is permitted inside the storefront glass and shall be submitted with the signage package. Informational signs shall not be internally illuminated. Store hour's and credit card information adjacent to an entrance is limited to 5% of the storefront glazing area. All other window signage, excluding hours of operation, shall be limited to 10% of the storefront glazing area.

- Except as provided herein, no advertising placards, banners, pennants, names, insignia, trademarks, or other descriptive materials shall be affixed or maintained upon the glass panes and supports of the storefront windows and doors, within the storefront without prior written approval of the Landlord.

- At no time will hand-lettered, non-professional signs, or newspaper advertisements be displayed on the storefronts.

- Decals or other signing indicating products lines or credit card acceptability shall not be permitted on the storefront glazing other than stores operating hours.

Development Wall Signs-

- Signage identify the Development (Mission Trails) may be installed on the wall above the arched entry element

- As an alternate a projected sign may be installed adjacent to the arched entry attached to the stone columns. Sign may be internally or externally lighted and may extend off the wall 4' and be a minimum of 7' above ground but not extend above the third floor level. – *Projected Signage Fig. 1*

(Projected Sign Fig. 1)

- Signage shall be permitted that fits proportionately on the Exterior frontage and shall not exceed 10% of the exterior façade.

Business/Wall Signage-

- For purposes of this criteria the corner courtyard and Tenant spaces, if multi-Tenant, (not a single tenant) store exterior façade shall be used for sign in the same property as the interior space proportional to the interior frontage.

- Sign shall be located above the metal canopies as shown in the attached elevation- *Figure 1*. Or on the wall above the arched elements if this area is used by a single tenant.

- Signage shall be permitted that fits proportionately on the Exterior frontage and shall not exceed 10% of the exterior façade proportional to the interior frontage.

(Business Sign- Figure #1)

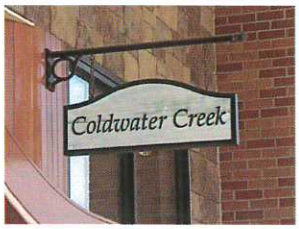
(Business Sign-Figure #2)

Blade Signage –

- Blade Signs: Are allowed one (1) per business, three (3) s.f. max. Letter height shall be 12" inches max with a maximum of 36" projections. Signs will be non-illuminated, but may have external lighting.

(Blade Sign Fig. #1)

The blade sign shall be located on an elevation and clear height to bottom of sign shall be indicated. Maintain minimum of 7'-0" to maintain ADA requirements. Decorative brackets and sign design, reference Figures 1 & 2, are to reflect the qualities of the signs.



(Blade Sign Fig. #2)

Development Monument Signs

- One double faced monument sign is permitted for street frontage, up to six (6') feet in height above the average grade, ten (10') minimum from public street right of way, and shall not exceed 50 square feet per face or a double faced sign. Sign shall have a solid base to match the building design. The monument sign shall be setback a minimum of five feet (5') from the property line and shall have a minimum of three feet (3') landscaping on all sides

- Sign may have non-illuminated, individually illuminated or be indirectly illuminated letter.

- Monument signs shall not be located within the sight triangle, as defined by the City of Mission Kansas.

Signs Not Permitted

The following types of signs shall not be permitted:

- Signs such as die cut vinyl, gold or silver leaf, or paint.

- Boxed pillow or cabinet type.

- Formed plastic or injection molded plastic signs.

- Cloth, paper, cardboard and similar stickers or decals around or on surfaces on the storefront without prior written approval.
- Exposed neon signs or exposed light sources.
- Animated, moving, rotating or flashing.
- Noise making.
- Additional signage of any kind within 4' of storefront windows.

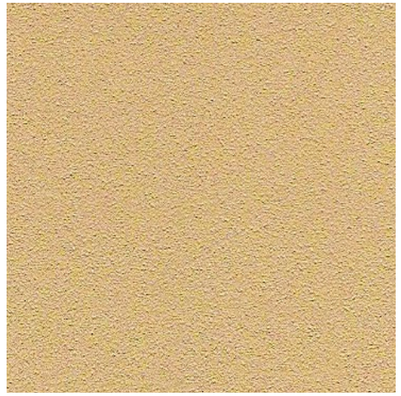
Temporary Signage

- Temporary signs may be posted on property subject to the following requirements and those applicable provisions in the city's sign ordinance and permits obtained.
- The total square footage per business for temporary signs aggregate shall not exceed forty-eight (48) square feet, with no individual sign exceeding sixteen (16) square feet. The total square footage of a sign is measured to include all of the visible display area of only one (1) side of the sign and only the area of one (1) side of a double sign is included in the aggregate calculation.
- Such signs shall not exceed six (6) feet in height
- Temporary signs shall maintain a setback of at least three (3) feet from the property line.
- Temporary sign shall not be illuminated or painted with a light-reflecting paint.
- Temporary signs may be posted for:
    - Up to sixty (60) consecutive days or
    - Up to sixty (60) non-consecutive days per calendar year
    - Signs advertising premises for lease may remain until the property is leased.
        - For Lease signs shall be limited to a single sixteen (16) square foot sign as noted above
- Temporary sign shall not obstruct or impair access to the public sidewalk, public or Private Street, driveway, traffic control sign, bus stop, fire hydrant, or any other type of street improvements or otherwise create a hazard, including a tripping hazard.

Additional Signage

- Service doors to Tenant spaces throughout the project shall be standard 4" vinyl (white) letter, identification only (name and address number) and shall be installed by the Tenant. The Tenant shall not apply any signage or other wording to service doors.
- All signage must be shown to scale on the approved storefront elevation drawing.
- All additional signage shall be submitted to the Landlord and City for approval.
- Any minor deviations to the criteria will be reviewed on an individual basis and subject to Landlord and City approval.

ST-1 DRYVIT STUCCO -
OYSTER SHELL # 456



ST-2 DRYVIT STUCCO -
ALMOND #462

CS-1 MIDWEST CAST STONE -
25AC

PRE-1 PRECAST PANEL -
COLOR TO MATCH CS-1

MT-1 KAWNEER -
MEDIUM BRONZE

SF-1 KAWNEER GLAZING - CLEAR

SV-1 STONE VENEER - NATURAL
STONE VENNERS BROOKWOOD /
ASPEN

SV-2 STONE VENEER -
GLEN GERY - CREATIVE MINES -
JUTE

WD-1 SYNTHETIC WOOD - FAUX
WOOD BEAMS - WALNUT COLOR
AND PROFILE

TL-1 SPANISH ROOF TILE -
BORAL - RUSTIC NEWPORT

TL-2 MOSAIC SPANISH TILE -
SPANISH PATTERNED

FINISH SCHEDULE				
SYMBOL	MATERIAL	MANUFACTURER	COLOR	TEXTURE / FINISH
CS-1	CAST STONE	MIDWEST CAST STONE	25 AC	SANDBLAST
ST-1	STUCCO	DRYVIT - ACRYLIC FINISH	OYSTER SHELL #456	FREESTYLE
ST-2	STUCCO	DRYVIT - ACRYLIC FINISH	ALMOND #462	FREESTYLE
MT-1	ALUMINUM	KAWNEER	DARK BRONZE	CLEAR
PRE-1	PRECAST PANEL	TBD	ACID WASH - LIMESTONE	ACID WASH
PT-1	PAINT	SHERWIN WILLIAMS	TO MATCH WD-1	TBD
SF-1	GLAZING	KAWNEER	CLEAR	MULLIONS TO MATCH MT-1
SV-1	STONE VENEER	NATURAL STONE VENEERS	BROOKWOOD / ASPEN	LOW PROFILE SPLIT FACE
SV-2	STONE VENEER	GLEN GERY - CREATIVE MINES	JUTE	CRAFT CHISELED RECTANGLE
WD-1	SYNTHETIC WOOD	FAUX WOOD BEAMS	WALNUT	WALNUT
TL-1	CONC. SPANISH ROOF TILE	BORAL	RUSTIC NEWPORT	RUSTIC NEWPORT
TL-2	MOSAIC SPANISH TILE	TBD	SPANISH PATTERNED	SMOOTH ACRYLIC FINISH

* FINAL MATERIAL COLORS AND TEXTURES TO BE DECIDED AT TIME OF FACADE MOCK-UP BY OWNER AND CITY

MATERIALS BOARD