Westwood

ENVIRONMENTAL ASSESSMENT WORKSHEET

600 Washington Avenue SE

Minneapolis, Minnesota
March 21, 2016

Prepared For:

Core Minneapolis LLC – a Harbor Bay Real Estate Advisors
and Core Spaces Joint Venture
P.O. Box 508
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Minneapolis, MN

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ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addressed collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation, and the need for an EIS.

1. Project Title

600 Washington Avenue SE

2. Proposer

Proposer: Core Minneapolis LLC – a Harbor Bay Real Estate Advisors and Core Spaces Joint Venture.
Contact Person: Tom Lund
Title: Principal, Harbor Bay Real Estate Advisors, LLC
Address: P.O. Box 508
City, State, ZIP: Richmond, IL 60071
Phone: (612) 867-7654
Email: tom@harbor-bay.com

3. RGU

RGU: City of Minneapolis
Contact Person: Hilary Dvorak
Title: Principal City Planner
Address: 250 South 4th Street, Room 300
City, State, ZIP: Minneapolis, MN 55415
Phone: 612-673-2639
Fax: 612-673-2526
Email: hilary.dvorak@minneapolismn.gov

4. Reason for EAW Preparation

Check one:

Required:
☐EIS Scoping
☒Mandatory EAW

Discretionary:
☐Citizen petition
☐RGU discretion
☐Proposer initiated

If EAW or EIS is mandatory, give EQB rule category subpart number(s) and name(s):

4410.4300 MANDATORY EAW CATEGORIES.

Subp.19. Residential development D. 375 attached units in a city within the seven-county Twin Cities metropolitan area that has adopted a comprehensive plan under Minnesota Statutes, section 473.859; and Subp. 32. Mixed residential and industrial-commercial projects with a sum of quotients exceeding 1.0.

5. Project Location

County: Hennepin County, Minnesota

City/Township: Minneapolis

Address: 600 Washington Avenue SE, 612 Washington Avenue SE and 311 Harvard Street SE

PLS Location (¼, ¼, Section, Township, Range): T29, R24, S25

Watershed (81 major watershed scale): Mississippi River (Metro) #20

GPS Coordinates: 44.973443, -93.229874 (Approximate Project Center)

Tax Parcel Numbers: 2502924140021, 2502924110008, 2502924140058

At a minimum attach each of the following to the EAW:

- ☐ County map showing the general location of the project; **See Exhibit 1.**
- ☐ U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and **See Exhibit 2.**
- ☐ Site plans showing all significant project and natural features. Post-construction site plan and Pre-construction site plans (**Exhibits 1-9**).

See Table of Contents for additional exhibit locations and appendices.

6. Project Description

a. Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).

The 600 Washington Avenue SE project is a proposed 27-story, multi-use, transit-oriented development (TOD) located along the METRO Green Line LRT in Minneapolis. The project consists of a multi-family residential building with up to 450 residential units, approximately 12,500 square feet of commercial space on the ground floor and up to 201 enclosed parking spaces.

b. *Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that would cause physical manipulation of the environment or would produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.*

The 600 Washington Avenue SE project is a 27-story, multi-use, transit-oriented development (TOD) proposed along the METRO Green Line LRT in Minneapolis. The project will entail the redevelopment of a 0.68-acre property which contains existing 1 and 2-story masonry structures and a surface parking lot. The property consists of three separate parcels (Hennepin County PID numbers: 2502924140021, 2502924110008 and 2502924140058). The parcels are located in the northwest quarter of the block located south of Washington Avenue SE, north of Delaware Street SE, east of Harvard Street SE and west of Walnut Street SE. **Appendix A** contains an Alta Survey completed by Sunde Land Surveying on December 15, 2015, which shows the current site conditions.

The project will consist of a 27-story, 275-foot tall multi-family residential building containing up to 450 units with a total of 644 bedrooms, and approximately 12,500 square feet of commercial space on the ground floor. The total Gross Floor Area (GFA) of the completed building will be 341,543 square feet, with a density of approximately 648 dwelling units per acre. The building exterior will consist of glass and metal panels. **Appendix B** contains a set of Conceptual Renderings of the development, although the design process is on-going. The project will provide a unique housing opportunity to a currently unserved population who desire to live in a TOD development that is walkable to campus activities (education, arts, research, athletics, restaurants and retail), and immediately accessible to mass transit. High density, transit-oriented development is a sustainable residential building model that minimizes energy consumption.

It is anticipated that the project will be attractive to a broad spectrum of the resident population including: University of Minnesota employees, medical staff, family of extended stay hospital patients, medical residents and fellows, research faculty, students, retired faculty and alumni, downtown employees, and empty nesters from surrounding neighborhoods. The project is located immediately east of the METRO Green Line LRT East Bank Rail Station, providing convenient access to both downtown Minneapolis and St. Paul and to the airport. Other transit amenities in the immediate vicinity of the project include access to Metro Transit bus routes, a Nice Ride Minnesota bicycle station (McNamara Center Station), and designated bikeways. Due to the transit-oriented nature of the project, onsite parking for residents has been reduced to 151 spaces on levels 2-6. Up to 50 parking stalls will be provided in the lower level to replace the existing surface parking stalls that are owned and used by Grace Lutheran Evangelical Church, which is located across Harvard Street SE. A charging station port will be offered on all parking levels. Access to the parking levels will be from Harvard Street SE and from the driveway off of Walnut Street SE. Bike storage will be offered on the basement floor, first floor, and from floors 2-6.

The building will consist of 27 floors, one basement level and 27 floors above ground. The basement level will consist of up to 50 parking spaces to be leased by the Church, bike storage and mechanical space. The retail space, loading dock, mail room, fire command room, trash rooms, and mechanical room will all be on the 1st floor. The 2nd floor will consist of parking and leasing office. The 3nd through 6th floors will consist of parking with residential units lining

the building along Washington Avenue SE and wrapping the corner along Harvard Street SE. The 7th through the 27th floors will consist of residential units, with terraces on the 7th and 27th floors. Four, centrally-located elevators and two stairwells will allow access to the upper floors of the building. Residential units will consist of 113 micro units, 90 studio units, 72 one-bedroom units, 162 two-bedroom units, 9 three-bedroom units, and 4 four-bedroom units. Micro units are 340 square-foot units with full kitchens and baths, washer and dryer, and built in furniture for efficient use of space. Micro units provide an affordable apartment option for people who want single occupancy. **Appendix C** contains a set of typical building floor plans for the development, and **Appendix D** contains metrics tables for the project.

c. *Project Magnitude*

Table 5.1. Project Magnitude Data

Total Project Acreage	0.68
Linear project length	N/A
Number and type of residential units	450 Attached (Dwellings)/644 bedrooms
Commercial building area (in square feet)	Approximately 12,500 (Office/Retail/Commercial)
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	Up to 201 parking stalls on site (structured parking)
Structure height(s)	Residential: Up to 27 stories (275 feet)

d. *Explain the project purpose; if the project would be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.*

The purpose of the development is to redevelop existing 1 and 2-story buildings and a surface parking lot in Minneapolis with a 27-story mixed-use, TOD development. The project will consist of a multi-family residential building with up to 450 units, and approximately12,500 square feet of commercial space on the ground floor. The project would be developed by Core Minneapolis LLC – a Harbor Bay Real Estate Advisors and Core Spaces Joint Venture with private funds and financing.

e. *Are future stages of this development including development on any other property planned or likely to happen?* ☐ *Yes* ☑ *No.*
If yes, briefly describe future stages, relationship to the present project, timeline, and plans for environmental review.

There are no planned future stages of the project.

f. *Is the project a subsequent stage of an earlier project?* ☐ *Yes* ☑ *No.*
If yes, briefly describe the past development, timeline, and any past environmental review.

Not applicable.

7. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development.

The project would replace two existing, 1 and 2-story masonry commercial buildings and a bituminous surface parking lot with a high-density, mixed use development.

Table 7.1. Estimated Before and After Cover Types

Land Cover	Before (acres)	After (acres)
Wetland	0.00	0.00
Deep water/streams	0.00	0.00
Wooded/Forest	0.00	0.00
Brush/Grassland	0.00	0.00
Cropland	0.00	0.00
Lawn/landscaping	0.01	0.02
Impervious Surface	0.067	0.066
Stormwater Pond	0.0	0.0
Totals	**0.68**	**0.68**

If **Before** *and* **After** *totals are not equal, explain why:* Totals are equal.

8. Permits and Approvals Required

List all known local, state, and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.

The following table lists the primary permits and approvals anticipated for the project.

Table 8.1. Permits and Approvals Required

Unit of Government	Type of Application	Status
Federal Permits and Approvals		
Federal Aviation Administration	Notification of Proposed Construction	To be applied for, if needed
State Permits and Approvals		
Pollution Control Agency	Sanitary Sewer Connection Permit	To be applied for
	Registration permits for generators	To be applied for, if needed
Department of Health	Water Main System Extension Permit	To be applied for
Department of Natural Resources	Appropriation/Dewatering Permit	To be applied for, if needed

Mn/DOT Aeronautics	Airspace Obstruction Permit	To be applied for, if needed
Regional Permits and Approvals		
Metropolitan Council Environmental Services	Approval of dewatering discharge	To be applied for, if needed
	Sanitary Sewer Connection Permit/SAC Fee	To be applied for
Mississippi River Watershed Management Organization	Grading/Stormwater Permit	To be applied for
Local Permits and Approvals		
City of Minneapolis	Zoning – Rezoning, CUPs, Variances, Site Plan Review	To be applied for as needed
	Lane Use/Obstruction Permit	To be applied for, if needed
	Right-of-Way Excavation Permit	To be applied for, if needed
	Sanitary Sewer Connection/Extension Permit	To be applied for, if needed
	Storm Sewer Connection/Extension Permit	To be applied for, if needed
	Erosion and Sediment Control Permit/Plan Approval	To be applied for
	Stormwater Management Plan	To be applied for
	Encroachment Permit	To be applied for, if needed
	Sidewalk Construction Permit	To be applied for
	Building Permits	To be applied for
	Certificate of Occupancy	To be applied for

Note: The project proposer would apply for and receive all applicable permits prior to project construction.

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land Use

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The existing land use within, and adjacent to, the site is depicted on **Exhibit 6**. The 0.682 acre site comprises three parcels:

- 600 Washington Avenue SE (the 600 Parcel) contains a 1 and 2-story, brick building with an approximately 9,200 square-foot footprint. There are retail uses on the first floor and 6 apartments on the second floor. There is a small bituminous parking lot and delivery area behind the building.

- 612 Washington Avenue SE (the 612 Parcel) contains a 1-story commercial building that is approximately 4,500 square feet in area.

- 311 Harvard Street SE (the 311 Parcel) is a bituminous, surface parking lot, including driveway access from both Harvard Street SE and Walnut Street SE. The 311 Parcel is currently owned by Grace University Lutheran Church (the Church), which is located at 324 Harvard Street SE. The Church uses the 311 Parcel for parking for their services and events and leases parking spaces on monthly contracts for use during other times of the week.

Adjacent land uses on the block include: a 6-story, mixed-use (retail and multiple-family) building to the east; a 6-story, approximately 200,000 square-foot parking ramp that covers most of the south half of the block and that is owned by the University of Minnesota; and a 2.5 story fraternity house on the southwest corner. Across Washington Avenue SE to the north is an 8-story hotel owned by the University. Commercial and mixed-use buildings extend east along Washington Avenue SE and within the Stadium Village commercial district. The University East Bank campus is located north, west and south of the site, with the 17 story, Malcom Moos Health Sciences Tower on the block immediately to the west across Harvard Street SE. The METRO Green Line LRT corridor runs along Washington Avenue SE and an LRT transit station is located within a block of the site.

There are no parks, trails, or farmlands located on the site. The Mississippi River, East River Parkway and East River Flats Park are located a few blocks to the south and east of the site.

ii. Plans. Describe planned land use as identified in comprehensive plans (if available) and any other applicable plan for land use, water, or resource management by a local, regional, state, or federal agency.

The *Minneapolis Plan for Sustainable Growth* (the City's Comprehensive Plan, 2009) designates the 600 Parcel and the 612 Parcel on the future land use map as Mixed-Use, and the 311 Harvard Parcel as Urban Neighborhood. The Mixed-Use land use category allows for mixed use development, including mixed use with residential. Mixed use may include either a mix of retail, office or residential uses within a building or within a district. The Urban Neighborhood category is intended for predominantly residential areas with a range of densities. Although not generally intended to accommodate significant new growth, the highest densities are intended to be concentrated around identified nodes and corridors. More intensive nonresidential uses may be located in neighborhoods closer to Downtown and around Growth Centers.

The site is also located within the Stadium Village Activity Center, the East Bank Transit Station Area (TSA), and the University of Minnesota Growth Center. A recent amendment to the Comprehensive Plan provides the following clarifying guidance regarding housing density in and near these land use features: "Densities up to 800 du/acre may be allowed in or near all designated Growth Centers and within Activity Centers adjacent to Growth Centers, as consistent with adopted small area plans."

The following policies and implementation steps from the Comprehensive Plan apply to this site and project proposal:

Land Use Policy 1.3: Ensure that development plans incorporate appropriate transportation access and facilities, particularly for bicycle, pedestrian, and transit.

Land Use Policy 1.4: Develop and maintain strong and successful commercial and mixed use areas with a wide range of character and functions to serve the needs of current and future users.

Land Use Policy 1.5: Promote growth and encourage overall city vitality by directing new commercial and mixed use development to designated corridors and districts.

Land Use Policy 1.8: Preserve the stability and diversity of the city's neighborhoods while allowing for increased density in order to attract and retain long-term residents and businesses.

1.8.1 Promote a range of housing types and residential densities, with highest density development concentrated in and along appropriate land use features.

Land Use Policy 1.12: Support Activity Centers by preserving the mix and intensity of land uses and by enhancing the design features that give each center its unique urban character.

1.12.1 Encourage a variety of commercial and residential uses that generate activity all day long and into the evening.

1.12.2 Encourage mixed use buildings, with commercial uses located on the ground floor and secure entrances for residential uses.

1.12.3 Encourage active uses on the ground floor of buildings in Activity Centers.

1.12.4 Discourage uses that diminish the transit and pedestrian character of Activity Centers, such as automobile services, surface parking lots, and drive-through facilities.

1.12.5 Encourage a height of at least two stories for new buildings in Activity Centers, in keeping with neighborhood character.

1.12.6 Encourage the development of high- to very-high density housing within the boundaries of Activity Centers.

1.12.9 Encourage architectural design, building massing and site plans to create or improve public and semi-public spaces in Activity Centers.

Land Use Policy 1.13: Support high density development near transit stations in ways that encourage transit use and contribute to interesting and vibrant places.

1.13.1 Encourage pedestrian-oriented services and retail uses as part of higher density development near transit stations.

1.13.3 Discourage uses that diminish the transit and pedestrian character of areas around transit stations, such as automobile services, surface parking lots, and drive-through facilities.

1.13.4 Encourage architectural design, building massing and site plans to create or improve public and semi-public spaces near the station.

1.13.5 Concentrate highest densities and mixed use development adjacent to the transit station and along connecting corridors served by bus.

1.13.6 Encourage investment and place making around transit stations through infrastructure changes and the planning and installation of streetscape, public art, and other public amenities.

Land Use Policy 1.15: Support development of Growth Centers as locations for concentration of jobs and housing, and supporting services.

1.15.3 Encourage the development of high- to very high-density housing within Growth Centers.

1.15.4 Promote the integration of major public and private institutional campuses located in Growth Centers, including health care and educational services, with the function and character of surrounding areas.

Transportation Policy 2.4: Make transit a more attractive option for both new and existing riders.

2.4.3 Encourage higher intensity and transit-oriented development to locate in areas well served by transit.

Transportation Policy 2.8: Balance the demand for parking with objectives for improving the environment for transit, walking and bicycling, while supporting the city's business community.

2.8.1 Implement off-street parking regulations which provide a certain number of parking spaces for nearby uses, while still maintaining an environment that encourages bicycle, pedestrian, and transit travel.

2.8.7 Promote transit, walking, and biking as safe and comfortable transportation alternatives through reduced parking requirements, encouragement of employee transit incentive programs, and improved facilities.

Housing Policy 3.1: Grow by increasing the supply of housing.

3.1.1 Support the development of new medium- and high-density housing in appropriate locations throughout the city.

Housing Policy 3.2: Support housing density in locations that are well connected by transit, and are close to commercial, cultural and natural amenities.

3.2.1 Encourage and support housing development along commercial and community corridors, and in and near growth centers, activity centers, retail centers, transit station areas, and neighborhood commercial nodes.

The project site is also located within the area studied for the *Stadium Village University Avenue Station Area Plan* (the Stadium Village Plan, 2012), which guides the entire site for Mixed Use development. A top priority for implementation of the land use goals outlined in this plan includes "Direction of high density transit oriented mixed use development to designated areas in centers and corridors and at transit stations, with special attention to key intersections and gateways." Additional recommendations applicable to the proposed project include:

<u>Stadium Village Commercial Core</u>

- Encourage the development of multi-story mixed use development in the Stadium Village activity center, with active uses on the ground floor such as retail and services.
- Encourage high density residential both within the commercial core areas on upper floors, and in surrounding areas, as designated on the future land use map.
- Ensure that new development supports the pedestrian and transit oriented character of this area.

<u>Housing</u>

- Encourage the development of a variety of residential types to serve the diversity of people who live and/or work in the area, with a mix of affordability levels, unit types, ownership and rental, amenities, and other characteristics.
- Encourage the development of higher density housing close to the University campus, along major corridors, and at transit station areas.
- Very high density uses (120+ units per acre) may be suitable in some areas identified as high density, to be considered on a case-by-case basis.
- Encourage high quality construction in new housing projects, with durable structure, materials, and finishes.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Primary Zoning Districts

The site is located in the following zoning districts:
600 Parcel – C1, Neighborhood Commercial District
612 Parcel – C2, Neighborhood Corridor Commercial District
311 Parcel – Split zoned C1, C2 and R6, High Density Multiple-family District

The site must be rezoned to a uniform primary zoning district that allows mixed-use redevelopment. The proposal is to rezone all three parcels to the C3A, Community Activity Center District. As described in Section 548.320 of the City's Zoning Code, the C3A District is established to provide for the development of major urban activity and entertainment centers with neighborhood scale retail sales and services. In addition to entertainment and commercial uses, residential uses, institutional and public uses, parking facilities, limited production and processing and public services and utilities are allowed.

The uses proposed for the project (multiple-family residential, general retail, restaurant) are all permitted uses in the C3A District. Zoning requirements related to building bulk and setbacks in the C3A district include the following:

- Maximum height: 4 stories or 56 feet, whichever is less.
- Maximum floor area ratio (FAR): 2.7. The maximum FAR of multiple-family dwellings in a TSA may be increased by 30% (.81) through density bonuses for enclosed parking, mixed commercial-residential development and affordable housing.
- Yards/setbacks that increase with the height of buildings are required for multiple-family dwellings and for properties that are adjacent to residentially-zoned properties and residential uses.

Overlay Districts

The site is located within three overlay districts.

<u>PO Pedestrian Oriented Overlay District</u>

The proposed project is located within the overlapping PO Overlay Districts associated with the Stadium Village Area and Stadium Village Transit Station Area. As described in Section 551.60 of the Zoning Code, the purpose of the PO Overlay District is to preserve and encourage the pedestrian character of commercial areas and to promote street life and activity by regulating building orientation and design and accessory parking facilities, and by prohibiting certain high impact and automobile-oriented uses.

<u>UA University Area Overlay District</u>

As described in Section 551.1290 of the Zoning Code, the purpose of the UA Overlay District is to ensure high quality residential development through site design and off-street parking regulations that acknowledge the unique demands placed on land uses near a major center of educational employment and enrollment.

MR Mississippi River Critical Area Overlay District

As described in Section 551.660 of the Zoning Code, the purpose of the MR Overlay District is to prevent and mitigate damage to the Mississippi River, to preserve and enhance the Mississippi River's natural, aesthetic, cultural and historic value for public use, to protect and preserve the biological and ecological functions of the Mississippi River corridor, to comply with the requirements regarding the management of critical areas, and to protect the public health, safety and welfare.

As shown on **Exhibit 7**, the project is not located within a designated FEMA floodplain or flood zone.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

Rezoning to C3A is consistent with the Activity Center designation for the surrounding area and the existing C3A zoning of the properties north and east of the site along Washington Avenue SE. The proposed residential and retail uses are permitted uses in the C3A District and are compatible with the mix of commercial, hospitality and residential uses on Washington, with the parking ramp and fraternity on the south side of the block, and with the University campus.

The proposed residential density of the project is 648 dwelling units per acre, which is classified as very high density in the City's land use plans. This density is consistent with the guidance and policies of the Comprehensive Plan and the Stadium Village Plan that encourage very high density, transit-oriented development in Activity Centers, Transit Station Areas and in and near Growth Centers. In order to achieve the very high density and transit-oriented character encouraged by these land use policies, several zoning approvals will be required, as described below.

The proposed height of the building is 27 stories/275 feet. A conditional use permit (CUP) will be required to increase the allowed height above the 4 story/56 foot limit of the C3A District. In order to receive a CUP, the project must meet the CUP criteria, which analyze, among other factors, the compatibility of the proposal with the scale and character of surrounding properties. The surrounding context for building height is illustrated in **Appendix B**, Concept Renderings, and in **Appendix I**, Surrounding Building Height Analysis. The proposed project would be taller than most development in the vicinity, but is similar in height to the Malcom Moos Tower (approximately 17 stories/268 feet in height) located on the block immediately west of the project site. The nearby University medical campus contains other tall buildings, including the Mayo Building (approximately 179 feet) and the U of M Fairview Medical Center (approximately 137 feet). Increased height has been approved for other transit-oriented developments along the recently-constructed METRO Green Line LRT, including WaHu (11 stories) at the intersection of Washington and Huron Avenues and RISE (15 stories) to be constructed adjacent to the Prospect Park transit station. Very tall residential buildings up to 39 stories/337 feet are similarly located near the University's West Bank Campus in the Riverside Plaza development (http://www.emporis.com).

The proposed FAR of the building is 11.29. The project is anticipated to qualify for density bonuses for enclosed parking and mixed-use for an allowed FAR of 4.32. A variance will be required to achieve a FAR of 11.29.

The project is designed as a transit-oriented development (TOD) in order to benefit from and support the adjacent METRO Green Line LRT and nearby station. As a TOD, the project anticipates reduced demand for vehicular parking by residents compared to the requirements of the Zoning Code, including the generally-increased parking requirements of the UA Overlay District, and will require a variance of those vehicular parking requirements. In furtherance of its TOD character, the project is anticipated to meet the City's bicycle parking requirements. See Section 18, Transportation, for further information about proposed parking.

Variances are also anticipated to be required to reduce the required 15-foot yard/setback of the tower from the east property line and to reduce the approximate 55-foot yard/setback requirement for the tower from the south property line. The PO District requires buildings to be located within 8 feet of the street right-of-way line; the project may require a variance to be set back further than that in some areas in order to provide a wider pedestrian realm. Additionally, the project includes "micro units" that are smaller than the minimum 350 square-foot requirement of the Zoning Code for efficiently units, so a variance of that minimum size will also be required.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

Through the City's land use application and review processes, the applicant will work closely with City staff and the planning commission to ensure that mitigation measures are applied, as needed and warranted. Consideration will be given to tower orientation and setback relative to adjacent structures, articulation and building materials, and travel demand management strategies.

10. Geology, soils and topography/land forms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

Minnesota and U.S. Geological Survey information indicates bedrock geology underlying the site consists of Platteville and Glenwood formations, which is predominantly limestone, dolostone (Platteville) and shale (Glenwood) (M-194 Bedrock Geology of the Twin Cities Ten-county Metropolitan Area, Minnesota-Mossler, John H. (2013)). These formations are exposed almost continuously along the Mississippi River in Minneapolis and St. Paul. Bedrock elevations in this area are at an 800 mean sea level (msl) elevation, which is 30 to 50 feet below the ground surface in the area of the project, and constitutes a shallow limestone formation. The site is located in a karst region and four karst features such as sinkholes, springs, and stream sinks are identified within one mile of the site based on Karst Feature Inventory Points from the University of Minnesota, Department of Geology and Geophysics, but are not currently mapped on the site.

Braun Intertec (Braun) completed geotechnical borings and issued a Geotechnical Evaluation Report for the site dated December 23, 2015. The work was completed to support the new tower. Braun conducted three test borings to depths of 20-50 feet across the site. Based on the borings, Braun found that the site is underlain by a pavement section of over 5-10 feet of existing fill with debris from previously demolished buildings. Below the fill was native, poorly graded, moderately dense sands to approximately 20 feet. Below that was native silty sand down to

limestone bedrock at approximately 45 feet. Groundwater was encountered during drilling at approximately 26 feet. The geotechnical report concluded that the proposed structure can be supported by a deep foundation system. The logical choice for supporting the building would be drilled shaft foundations bearing on the limestone bedrock. End bearing capacity on the limestone of 50 to 75 tons per square foot is common, depending on the amount of embedment into the bedrock. For the podium portion of the building, there may be other options for foundations. Among these are drilled shafts, downhole hammer installed piers, or spread footings supported on the dense native sands.

b. *Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.*

The Soil Survey Geographic (SSURGO) digital database for Hennepin County (USDA NRCS, Accessed 2014) indicates the soils that occur within the project area (**Exhibit 8**) are Urban land-Udipsamments (cut and fill land) complex, 0 to 2% slopes. Urban land consists mainly of industrial parks, office buildings, warehouses, and railroad yards and is covered by impervious surfaces. Most of these urban land areas were originally wet, mineral or organic soils in depressions.

Udipsamments are nearly level areas that have undergone minimal grading and the cut and fill material is predominantly sandy. According to the Hennepin County Soil Survey, because of the variability of both of these components, interpretations for specific uses are not available and onsite investigation is needed. Prior to project construction, the project proposer would be conducting additional analysis of soil borings on the site to determine if there are site-specific soil limitations and what, if any, necessary soil corrections or special building foundations or footings might be needed for the project.

Approximately 10,000 cubic yards of soil will be excavated and exported off-site to facilitate construction of footings and one underground level of parking. Site grading would encompass the entire project area, which is approximately 0.68 acres.

Contour mapping from the MnDNR MNTOPO online mapping tool indicates surface topography in the project area is flat with elevations ranging from 834 to 836 feet above mean sea level across the site. There are no naturally occurring steep slopes on the site.

Erosion and sedimentation control BMPs related to stormwater runoff are discussed in greater detail within Item 11.b.ii.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. Water Resources

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

Surface Waters

The project site lies within the Mississippi River-Twin Cities Watershed, which drains to the Mississippi River. The Minnesota Department of Natural Resources (MN DNR) Public Water Inventory Map (PWI), the 2014 update of the National Wetland Inventory (NWI) Map, and the National Hydrography Dataset (NHD) were reviewed and depicted no watercourses or waterbodies within the site (**Exhibit 7**). The MN DNR PWI and NWI dataset mapping did indicate one watercourse within one mile of the site, the Mississippi River. NWI mapping indicated 5 wetlands within 0.5-miles of the project site. These wetlands are a PUBGx wetland north of the project area, and a PEM1A, PFO1A and two PSS1Ax wetlands south of the project area.

Impaired Waters

According to the 2012 Minnesota impaired waters inventory and the MPCA's impaired waters viewer (IWAV), no impaired watercourses or waterbodies are located within the project site. The only impaired water located within one mile southwest of the project is the Mississippi River (07010206-509). The Mississippi River (last inspected 2011) is impaired for mercury and PCB in fish tissue and for fecal coliform.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Three aquifers provide the majority of the public ground water supply in Hennepin County, the Prairie Du Chien-Jordan, Franconia-Ironton-Galesville, and Mt. Simon-Hinckley. Although groundwater needs are not anticipated for project construction or operation, the Prairie Du Chien-Jordan Aquifer would likely provide any ground water appropriations for the project site, as it lies below the center of the Twin Cities.

Groundwater elevations within the vicinity of the site are between 800 to 820 feet above sea level based on the Geologic Atlas of Hennepin County, Minnesota (1989) C-4, Plate 5. Topographic mapping indicates that elevations on the site are all around 834 to 836 feet above mean sea level. Consequently, the maximum depth to groundwater is estimated at about 35 feet and the minimum depth to groundwater is estimated at 15 feet below grade. The approximate average depth to groundwater was calculated by taking the average topographic elevations on the site (835) and subtracting the anticipated groundwater depth shown on the Hennepin County Atlas. Groundwater was encountered at 26 feet during the geotechnical borings, which is within the estimated range.

No new water wells are planned for the project. The Minnesota Geological Survey's (MGS) County Well Index (CWI) indicates one monitoring well located along the southern property boundary of the site; a 24-foot deep well (Unique Well Number 675967-Mercil Brothers). According to the CWI, this monitoring well was installed in 2002 and is currently active. Two additional monitoring wells are located on the same block but outside the project area, west of the project (Unique Well Number 675966-Mercil Brothers and 675968-Mercil Brothers). Both of these wells are 24 feet deep, and were installed on the same date as the well on the southern property boundary. Unique Well numbers identified within one block, but outside the project area, include: 200390 – University of Minnesota, and 200819-Campus Theater. Well logs for these five (5) wells are included in **Appendix E**.

The project is not located within a Minnesota Department of Health Wellhead Protection Area.

b. *Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.*

i. *Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.*

1) *If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.*

The types of wastewater produced by the project would be typical of high-density residential developments and commercial office space. No on-site municipal or industrial wastewater treatment is anticipated or planned and no pre-treatment of wastes from this development is proposed.

<u>Sanitary Waste Estimates</u>
Estimated sanitary waste generation from the project is estimated to be 124,727 gallon/day. Usage is based on the Metropolitan Council 2015 Sewer Availability Charge (SAC) Procedure Manual.

The above estimates are based on the following calculations:

- ☐ 450 residential units at 274 gallons per unit per day = 123,300 gal/day
- ☐ 12,500 gross sq. ft. of office/retail space at 274 gallons per 2,400 sq. ft. per day = 1,427 gal/day

Estimated Total = 124,727 gal/day

Note: Area and unit estimates are derived from project plans (Appendices C and D).

<u>Sewer System Connection and Capacity</u>
The site is located in sanitary service area MN-8255, Metropolitan Council District 8 (interceptor service area B), and is served by the Metropolitan Wastewater Treatment Plant. The Metropolitan Wastewater Treatment Plant has a current capacity of 251 million gallons per day, and is located near the Mississippi River in St. Paul, MN. The plant is an advanced secondary treatment facility with chlorination and dechlorination steps, ultimately discharging to the Mississippi River.

According to the City's approved Comprehensive Sanitary Sewer Plan (August 2008), the Minneapolis sanitary sewer system was originally constructed as a combined sanitary and stormwater system. However, the sewer system is now used solely for sanitary purposes and thus has capacity to handle the anticipated growth of sewage volume to 17.6 billion gallons by the year 2030. The Metropolitan Plant has the capacity to handle the volume and composition of the sanitary waste discharged from the site.

The proposed sanitary services would be connected to the City's sewer system located along Harvard Street SE. It should be noted that City of Minneapolis plumbing code for buildings may require sanitary connections at street level to be sized for instantaneous-use scenarios. Consequently, it may be necessary for sanitary sewer connections to be enlarged to accommodate anticipated capacities, or for temporary on-site storage to be provided to mitigate potential peaks from instantaneous use. The specific points of connection to the public system, and size of connections, would be determined with City staff at the time of application for building permits or Preliminary Development Review (PDR). Mapping of known sanitary sewer connection locations is provided in **Appendix F**.

2) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.*

   Wastewater discharge would not be to a subsurface sewage treatment system (SSTS).

3) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.*

   Wastewater discharge is not to surface water. No effects are anticipated to surface or groundwater as treatment would go to the Metropolitan Waste Water Treatment Plant.

ii. *Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.*

The project site is located in the Mississippi River Stormwater Drainage Area as shown in the City of Minneapolis's Local Surface Water Management Plan (LSWMP).

<u>Pre-Construction Site Runoff</u>

Currently, stormwater runoff on site is from surrounding roof drainage and parking lots and is not treated. According to the USEPA Urban Nonpoint Source Fact Sheet (2003), 55% or more of stormwater volume in areas dominated by impervious surface (75-100% impervious) leaves the site as runoff. Given that the site currently comprises two structures and paved surface parking areas, it is reasonable to assume that the majority of stormwater leaves the site as

runoff. Existing site runoff would likely contain pollutants associated with the predominant parking lot land use; road salts, sediment, oil, grease, heavy metals and chemicals from motor vehicles. Runoff not captured by the stormwater system primarily drains away from the site towards the Mississippi River. Currently, runoff from the site is conveyed to a 12" Reinforced Concrete Pipe (RCP) storm sewer in Harvard Street SE and to a 36" RCP storm sewer on the south side of Washington Avenue SE. No treatment or stormwater infrastructure exists on the site.

Construction Stormwater and Erosion Control BMPs and Permitting

Minneapolis, as a large MS4 (Municipal Separate Storm Sewer System) city, is required by federal and state law to obtain and implement a NPDES Stormwater permit administered by the MPCA. MS4s are required to develop and implement a stormwater pollution prevention plan program (SWPPP), and submit an annual report to the MPCA.

Because the project would involve disturbance of less than one acre of land, a Stormwater Pollution Prevention Plan (SWPPP), National Pollutant Discharge Elimination System (NPDES) permit, or compliance with the city's ordinance (Chapter 54) for stormwater management is not required. However, the project will comply with the city's erosion control ordinance (Chapter 52), and will use Best Management Practices (BMPs) to provide water quality and volume control to the extent practical.

Sediment control and erosion prevention practices that would be considered for implementation on the site include, but are not limited to:

1. Filter logs and other erosion control features installed prior to initiation of earthwork and maintained until viable turf or ground cover is established on exposed areas.
2. Street-level inlet protection.
3. Periodic street cleaning and installation of a rock construction entrance to reduce tracking of dirt onto public streets.
4. Stabilization of exposed soils, phased with grading, and
5. Use of sod and landscaping to stabilize exposed surface soils after final grading.

Erosion control plans must be reviewed and accepted by the City of Minneapolis prior to project construction. Because the above BMPs would be implemented during and after construction, potential adverse effects from construction-related sediment and erosion on water quality would be minimized.

Post-Construction Site Runoff

After construction, most of the stormwater runoff would come from rooftops and sidewalks. Runoff from the completed project is expected to contain fewer contaminants than preconstruction as the proposed parking would be covered.

The property is nearly 100% impervious in the existing condition, and will remain so in the proposed condition. Stormwater BMPs under consideration include a green roof (<4,000 square feet) on the 6th floor amenity terrace and rainwater harvesting via engineered soil retention along the Washington Avenue SE streetscape. These practices would provide for

limited improvements to water quality and reduce the runoff rate and volume relative to existing conditions.

Runoff from the property is conveyed to a 12" RCP storm sewer in Harvard Street SE and 36" RCP storm sewer on the south side of Washington Avenue SE. Connections to these systems will be made at existing catch basins in accordance with the construction specifications for the City of Minneapolis and the conditions of the city permit for work within the right-of-way.

Given that stormwater runoff from the existing parking lot is generally untreated, it is anticipated that the proposed project would provide an overall improvement by reducing rates of runoff and providing some treatment of runoff prior to entering the public storm sewer system.

iii. *Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.*

<u>Connection to a public water supply system</u>
The project would have no impact on sole source aquifers. Water would be supplied to the development via the Minneapolis municipal water supply system (Minneapolis Water Works). The City of Minneapolis obtains water from the Mississippi River for potable consumption under MN DNR water appropriation permit No. 786216-1. The permit allows a total system pumping capacity of 125,000 million gallons per year (MG/Y). According to DNR Water Appropriation Records as of 2011, the City reported pumping 20,084.1 MG/Y (average 55.0 million gallons per day).

Based on the assumption that consumption is approximately 110 percent of wastewater generation, estimated water usage from the project would likely be 137,200 gallons/day (see sanitary waste estimates in section 11.b.i. for details on usage estimation). Consequently, potable water supplies are adequate to meet the needs of the project without modifications to the existing system.

The proposed fire protection and domestic water services would be supplied from an existing 16" water main in Harvard Street SE. No water supply issues or constraints are anticipated. Mapping of known city water connection locations is provided in **Appendix F**.

<u>Dewatering</u>
Permanent dewatering is not anticipated for the project as the lower level of the proposed building will be greater than ten feet above the reported groundwater elevation. Temporary dewatering may be needed during construction of footings or during excavation of the lower level for dewatering of stormwater. Construction stormwater discharge due to temporary dewatering will be pre-treated to minimize turbidity prior to discharge to existing catch basin(s) on Harvard Street SE, or otherwise managed in coordination with City staff.

If construction dewatering and pumping from the proposed development becomes necessary, permits from the MN DNR and the Metropolitan Council would be obtained. If the quantities exceed the 10,000-gallons per day or 1,000,000 gallons per year thresholds, a DNR Water Appropriation Permit would be obtained. However, it is not anticipated that construction dewatering or pumping from the proposed development would be extensive or continue long enough to require a permit from the DNR.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts would occur in the same minor or major watershed, and identify those probable locations.

No water resources are located within the project area; therefore, the project would not involve alterations of wetlands.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project would change the number or type of watercraft on any water body, including current and projected watercraft usage.

Best Management Practices to avoid or minimize erosion and sedimentation during construction would be described in the project SWPPP, and deployed as needed. No physical effects or alterations to surface waters are anticipated as a consequence of project development given no surface waters are located within the project boundary or within close proximity to the site.

12. Contamination/Hazardous Materials/Wastes

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

Braun Intertec completed a Phase I ESA for the project area (**Appendix G**). The findings of this Phase I ESA were included in a report dated January 6, 2016. Braun Intertec found that, according

to building permits, the building on the 600 Parcel was constructed as a hotel prior to 1894. Permits were issued in 1904 for the construction of a two-story building on the 600 Parcel with stores at street-level and five apartments on the second floor of the building. The 600 Parcel also contained a small building in 1912 identified on the fire insurance map as a "gasoline house". A residence was constructed on the southwestern corner of the 311 Parcel and portions of two other residences were constructed on the eastern portion of the 311 Parcel prior to 1912. The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988. A commercial building was constructed on the 612 Parcel in 1926. A garage and drycleaner were located in the building from at least 1930 until 1935 and 1977, respectively. Various commercial businesses have occupied the buildings on the 600 and 612 Parcels. None of the commercial businesses identified at the site were of environmental concern with the exception of the garage and drycleaner at the 612 Parcel. A gasoline station was listed at 630 Washington Avenue SE (adjoining property east of the site) in the 1930 to 2007 city directories.

At the time of the reconnaissance by Braun Intertec, the site consisted of three parcels totaling approximately 0.70 acres. The site contains two adjoining commercial buildings on the northern portion of the site (one on the 600 Parcel and one on the 612 Parcel) and paved parking areas on the southern portion of the site (311 Parcel). Six apartments were located on the second level of the building on the 600 Parcel.

The Phase I ESA assessment identified no recognized environmental conditions in connection with the site, with the exception of the following:

- A "gasoline house" was located on the 600 Parcel in 1912, and a garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. Although this Phase I ESA revealed no releases at the site, based on the storage and use of hazardous substances and petroleum products for business activities associated with the former gasoline house, garage and drycleaner, there is a potential for unknown releases or numerous de minimis releases over time to impact soil, groundwater and/or soil vapor at the site. Thus, the potential for contamination at the site related to the former gasoline house, garage and drycleaner is considered a recognized environmental condition.

- The site is located in an area where numerous properties are listed in the regulatory report with reported releases of hazardous substances and/or petroleum products, including the gas station formerly located at 630 Washington Avenue SE (adjoining property east of the site) from at least 1930 until the late-2000s, where a release was reported to the MPCA on August 6, 2001 and assigned Leak #14406. Groundwater contamination was associated with the release. The MPCA closed Leak #14406 on September 25, 2007. Considering the proximity of Leak #14406 and the reported releases at properties in the area surrounding the site, it is Braun's opinion the potential exists for soil, groundwater, and/or soil vapor contamination to be present at the site from offsite sources. The potential for contamination at the site from offsite sources is considered a recognized environmental condition.

In addition to the two Recognized Environmental Conditions, Braun Intertec identified the following Additional Considerations. An additional consideration is a condition that does not meet the definition of a recognized environmental condition, controlled recognized environmental condition, or historical recognized environmental condition but, in Braun's opinion, should be

brought to the attention of the User. The following additional consideration was identified during the Phase I ESA:

- The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988. It is unknown if the demolition debris associated with the buildings was buried on the site or hauled away for disposal. Based on Braun's experience in historic urban areas, the potential exists that buried materials are present at the site that require management as solid or hazardous waste. If fill soils are encountered during redevelopment, which could include demolition debris, urban fill consisting of ash or clinker material, and other wastes, additional evaluation of the fill soils might be required for management and disposal purposes.

- Considering the site buildings are intended to be demolished associated with the proposed redevelopment of the site, Braun recommended that a Hazardous Building Materials Survey be completed on the current buildings at the site prior to demolition. Identified hazardous materials documented by the survey should be removed and disposed in accordance with applicable local, state and federal regulations prior to demolition.

Based on the above information for the site, it appears previous potential sources of soil and groundwater contamination has been identified. The project proposer would prepare a Construction Contingency Plan prior to site development. In the event that materials are encountered during excavation and grading activities that require special management or disposal, they would be handled and disposed of in accordance with the applicable regulations, permits, and practices for those materials.

The National Pipeline Mapping System (NPMS) Public Map Viewer was accessed in February 2016 to determine the presence of hazardous liquid or natural gas pipelines on or adjacent to the site. Based on the NPMS mapping, there are no hazardous liquid or natural gas pipelines on or adjacent to the site.

b. *Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.*

No significant volumes of solid wastes are anticipated to be encountered/generated during construction and/or operation. Construction activities would generate wastes typical of residential and commercial development operations. The contractor would dispose of wastes generated at the site in an approved method by using commercial dumpsters and disposing construction wastes at an MPCA-permitted landfill. The contractor would minimize and mitigate adverse effects from the generation of solid waste from demolition and construction activities by recycling construction waste that can be recycled, when feasible.

Following project construction, solid waste generation would be typical of occupied residential/commercial developments of this size and would consist of mixed municipal/residential waste materials. The majority of the solid waste generated would include materials such as paper, organics, plastics, and "other wastes" which includes materials such as appliances, furniture and textiles.

According to the Metropolitan Solid Waste Management Policy Plan 2010-2030 (MPCA, 2011), the Minnesota per capita rate for waste generation is 1.06 tons per person per year. The following residential solid waste generation rate estimates were based, in part, on 2010 City of Minneapolis census data which indicate that the average number of persons per household is 2.21. The project includes 450 residential units. To calculate the estimated amount of waste generated for the project, the household occupant number (2.21) was multiplied by the number of units (450) and then multiplied by 1.06 tons per person per year. Using these figures, the residential portion of the proposed development could generate approximately 1,054 tons of solid waste per year. The amount of solid waste produced for the commercial/retail component was calculated using a metric of 2.5 pounds per day (lbs/day) generated per 1,000 square feet. The project includes 12,500 square feet of retail/office space. Using these figures, the commercial/retail portion could produce approximately 5.7 tons of solid waste per year (2.5 lbs x 12.5 x 365 days). Consequently, the total estimated solid waste produced by the project is approximately 1,060 tons per year.

A source recycle/separation plan for the residential, commercial/retail component of the project would be implemented in accordance with City requirements. Mixed municipal solid waste not recycled would either be incinerated at the Hennepin County Energy Recovery Center or hauled to a sanitary landfill. Participation in the recycling program by future residents of the project area is expected to reduce costs for solid waste trucking and disposal, and generally minimize and mitigate adverse effects from the generation and storage of solid waste.

c. *Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.*

It is not anticipated that the proposed project would generate, or require storage of, significant amounts of hazardous wastes aside from typical household cleaners. During construction, hazardous materials such as fuels (small quantities stored above ground) and specific construction materials would be on site during construction and stored and handled in conformance with state and federal regulations to prevent accidental spill or release of hazardous materials. Builders and contractors are responsible for proper management of hazardous materials utilized during construction. The contractor would minimize and mitigate adverse effects from the generation and storage of hazardous wastes by recycling wastes that can be recycled, and by developing a spill prevention plan for the project.

The project will have an emergency generator to serve as a back-up source of electricity during power failures. The generator, with above-ground fuel tanks, is currently planned to be located next to the south end of the building. Alternatively, the generator would be placed in the first floor mechanical space, or below grade. Regardless of final design and location, all applicable local, state, and federal permits will be acquired prior to installation. According to Xcel Energy, the transformer requirements for the site will be one 480V transformer (8'-8" x 8'-4" pad) and two 208V transformers (6'-3" x 8'-4" pad). Transformers may be installed below ground due to space constraints on the site.

d. *Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid,*

minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

Outside of the materials described above, the project is not anticipated to generate or require the storing, handling or disposal of hazardous wastes during construction or operation of the project. Consequently, potential environmental effects from hazardous wastes, and measures to avoid, minimize, or mitigate adverse effects from the generation/storage of hazardous waste (including source reduction and recycling) have not been considered.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

a) *Describe fish and wildlife resources as well as habitats and vegetation on or near the site.*

Data and imagery available through USGS, the MN DNR, Google Earth, Google Earth Street View, and the City of Minneapolis were used to conduct a desktop analysis of cover types, habitats, and wildlife resources. The site area provides few resources for wildlife due to its current use as commercial and residential space and a surface parking lot, general lack of vegetative cover, and developed properties surrounding the site. Habitat is limited to a few small boulevard trees along Washington Avenue SE on the north side of the property. These trees are planted in cut-outs in the sidewalk. The remainder of the site is impervious surface. Wildlife use of the site is likely limited to low use by species adapted to urban environments and highly fragmented habitats including species such as rock pigeons, black-capped chickadees, house sparrows, grey squirrels, and small rodents.

East River Flats Park, located approximately 0.25 miles southwest and the associated Mississippi River Corridor, provide more substantial open space, landscaped vegetation, and wetland areas for wildlife. Specifically, the Mississippi River corridor and associated parkland provides habitat and resources to a variety of aquatic organisms and birds of prey. Re-development of the project area is expected to have no effect on the habitat available in East River Flats Park or the Mississippi River Corridor.

b) *Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-**NA**) and/or correspondence number (ERDB-**20160323**) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

Westwood currently has a license agreement with the DNR to use their rare features database information. Westwood mapped data from the Minnesota Natural Heritage Information System (NHIS; MN DNR 2014) to determine if listed plants and animals, native plant communities, wildlife aggregations, geological features, or state rare features are known to occur within or near the project site (**Exhibit 9**). The database search and mapping did not identify listed plants and animals, native plant communities, wildlife aggregations, geological features, or state rare features within the project boundary.

A NHIS Data Request Form was submitted to the DNR on February 3, 2016, to request information regarding fish, wildlife, and ecologically sensitive resources. The response letter from

the DNR, dated March 9, 2016, is included in **Appendix H.** Based on their review, they do not believe that the proposed project will adversely affect any known occurrences of rare features.

According to the Natural Communities and Rare Species of Hennepin County Map (Minnesota County Biological Survey, 1997), the project site does not contain rare plant or animal species or other significant or otherwise designated natural features or habitat areas.

c) *Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.*

Project development would convert existing structures and surface parking into high-density housing and retail space. Consequently, the project is not expected to result in a decline in wildlife abundance or species diversity. Measures expected to provide additional habitat for wildlife and help mitigate potential adverse effects include increased landscaping along sidewalks and streets.

Invasive Species

The project proposer understands that the introduction and spread of invasive weed species from project construction and operation requires consideration. While there is the opportunity for invasive weed species to be introduced during project construction, it is unlikely that these species would persist in a meaningful way following construction. The proposed project would be landscaped with turf grass and landscape trees and shrubs per a city-approved landscaping plan. Consequently, large areas of exposed soils where invasive weed species might appear are not expected. If large areas of invasive species develop, they would be controlled by the applicant in accordance with local and state invasive and noxious weed regulations.

d) *Identify measures that would be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.*

The proposed project is unlikely to have negative effects on fish, wildlife, plant communities, or sensitive ecological resources due to its location and the current site use.

14. Historic properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that would be taken to avoid, minimize, or mitigate adverse effects to historic properties.

Research on historic structures and archaeological sites was conducted at the State Historic Preservation Office (SHPO) in St. Paul, MN. Additionally, a database search was requested from the SHPO.

No previously recorded archaeological sites are located within or immediately adjacent to the project area. No archaeological sites are located within 500 feet of the project area.

Five inventoried historic structures are located within 500 feet of the project area (**Table 14.1**). One inventoried historic structure is located within the project site. This structure, a commercial block with SHPO Inventory Number HE-MPC-18056, was recommended as not eligible for listing on the National Register of Historic Places (NRHP).

Table 14.1. Inventoried Historic Structures within 500' of Project Area

Inventory Number	Name	Address	NRHP Eligibility Status
HE-MPC-3174	Cooke Hall	1900 University Ave. SE	Not Evaluated
HE-MPC-3300	Field House	1800 University Ave. SE	Not Eligible
HE-MPC-7169	Phi Chi Fraternity	325 Harvard St. SE	Eligible
HE-MPC-18056	Commercial block	600-610 Washington Ave. SE	Not Eligible
HE-MPC-18057	Commercial building	718-720 Washington Ave. SE	Further Research Needed

Another inventoried structure, the Phi Chi Fraternity House (SHPO Inventory Number HE-MPC-7169) is immediately adjacent to the south of the project area. This structure is one of the properties within the University of Minnesota Greek Letter Chapter House Historic District as locally designated by the City of Minneapolis. This structure has also been recommended as eligible for the NRHP.

The remaining three inventoried historic structures have not been evaluated for the NRHP or have been evaluated as not eligible.

Structure HE-MPC-18056, which has been evaluated as not eligible for the NRHP, will be demolished as part of the proposed project. No direct physical impacts are anticipated upon the remaining identified historic structures.

The project site is also located within a mile of the University of Minnesota Old Campus Historic District, which is listed on the National Register of Historic Places.

15. Visual

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The property is located within possible viewing distance of the Mississippi River and the TCF Bank Stadium. It is in an area of high pedestrian traffic immediately adjacent to the METRO Green Line LRT East Bank Station and University of Minnesota campus facilities. However, the construction and proposed height of the structure (275 feet) is consistent with the character and heights of surrounding buildings. In particular, the Malcom Moos Health Sciences Tower, the tallest building on the University of Minnesota Campus, and located immediately west and southwest of the property, is approximately 268 feet tall. Additionally, the skyline on the opposite side of the Mississippi River from the property includes buildings in excess of 300 feet in height (i.e. Riverside Plaza). Views to the river from The Commons Hotel located immediately north of the property are already obstructed, or partially obstructed, by structures of similar height, located south and southwest.

The proposed project may partially obstruct views of the stadium from the upper floors of the Malcolm Moos Tower; however, potential impacts to views of the stadium from other surrounding buildings are mitigated by the fact that the Malcolm Moos Tower and The Commons Hotel building already obstruct, or partially obstruct, these views. A Surrounding Buildings Height Analysis was completed for buildings in the immediate vicinity of the project area and is provided in **Appendix I**. Existing buildings in the area range in height from 28 feet (Phi Chi Fraternity House) to 268 feet (Malcom Moos Health Sciences Tower).

The proposed development is consistent with other established uses in the project area, and therefore would not create a significant change in visual aesthetics. Visual effects from sources such as vapor plumes or glare from intense lights is not anticipated. A shadow study was also completed for the project and the results are shown in **Appendix J**. The study evaluated shadows from the project, and other buildings in the project area, during seasonal milestones including spring equinox, summer solstice, fall equinox, and winter solstice, and at various times of day (10AM, 12PM, and 3PM). The building results in a relatively negligible increase in shadows within the project area, with the most significant shadowing during the late afternoon of the winter solstice.

16. Air

a. *Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that would be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.*

   No stationary source emissions are anticipated; therefore, no mitigation is required. The natural gas heating and cooling systems proposed for the building are expected to consist of individual furnace/air conditioning systems. Emissions from the heating and cooling units would be typical of other buildings in the area.

b. *Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that would be taken to minimize or mitigate vehicle-related emissions.*

   Increased traffic to and from the project development would generate a relatively small corresponding increase in carbon monoxide levels and other vehicle-related air emissions. However, it is anticipated that the project's transit-oriented design and location will promote other modes of transportation such as walking, bike riding, and mass transit for overall per-person emission reductions. The project is expected to have a negligible impact on air quality. Consequently, baseline air quality monitoring, or predictive air quality modeling, has not been contemplated at this time, and no measures to mitigate air quality impacts have been considered.

c. *Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that would be taken to minimize or mitigate the effects of dust and odors.*

Project construction and occupancy is not expected to generate objectionable odors or dust. Odors and dust generated during construction and occupancy would meet the requirements of the MPCA and applicable local regulations. Sensitive receptors in the area include the medical patients visiting the U of M medical building located west and southwest of the property, patrons of the light rail station located northwest of the property, Grace University Lutheran Church located southwest of the property, Phi Chi Fraternity house located south of the property, and The Commons Hotel located directly north of the property.

The project would not generate significant odors during construction or operation. Minor odors generated during construction would be typical of those associated with urban construction processes, such as exhaust from diesel and gasoline powered construction equipment.

The construction process is expected to generate some dust, but it is not anticipated that fugitive dust would be generated in objectionable quantities. During demolition and construction, contractors would follow best management practices to reduce dust emissions. Suppression of airborne dust by application of water would be implemented if significant fugitive dust generation occurs during equipment operation that is greater than routinely expected during normal construction practices. Demolition would include removal of two existing buildings, and a bituminous surface parking area.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that would be taken to minimize or mitigate the effects of noise.

Existing noise levels in the project area are generally typical of urban environments and include noise from vehicle, light rail, and pedestrian traffic. Activity at the TCF Stadium, located 0.2 miles northeast, can add to local noise during games, concerts and other events. Due to the enclosed nature and residential and commercial character of the proposed project, it is not expected that noise levels from the project will exceed Minneapolis noise ordinances or levels typical of this university and commercial area; therefore, no impacts to sensitive receptors or quality of life is anticipated. Sensitive receptors in the area include the medical patients visiting the U of M medical buildings located west and southwest of the property, patrons of the light rail station located northwest of the property, Grace University Lutheran Church located southwest of the property, Phi Chi Fraternity house located south of the property, and The Commons Hotel located directly north of the property.

The Minneapolis Code of Ordinances and MPCA noise requirements regulate noise levels within the city for construction and operation (mechanical noise) at project sites. Construction and operation of the project would be required to comply with these noise requirements, including hours of operation of construction equipment. It is anticipated that noise levels would temporarily increase locally during project construction, but are expected to return to intensities and levels consistent with a university and commercial environment. Noise levels on and adjacent to the site would vary considerably during construction depending on the pieces of construction equipment being operated simultaneously, the percent of time in operation, and the distance from the equipment to the receptors. Planned landscaping at the perimeter of the project, and at outdoor amenity levels, would help to minimize and mitigate the effects of any negligible noise generated from the project following construction. Noise

levels following construction are anticipated to be consistent with other sources within the local area and in conformance with city and state noise standards.

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

1. Existing and Proposed Additional Parking Spaces –

The existing buildings are comprised of 11,927 sq. ft. of commercial/retail (restaurant) uses on the ground floors and six apartments above. There are approximately three private parking/loading spaces behind the commercial space. Also, there are 34 parking spaces in the permit parking lot behind the building and stretching eastward to Walnut Street SE.

The proposed land uses and corresponding parking supply for this site include:

- 27-story building with 450 apartment units (644 bedrooms)
- 12,500 sq. ft. of commercial uses on the ground floor
- 151 resident parking stalls in parking levels above-ground
- 45 min. stalls reserved for church use in parking level below-ground

This translates to an additional 159 parking spaces.

2. Estimated Total Average Daily Traffic Generated –

Based on previous TDM Plans in the university area and the types of proposed land uses, the following mode split goals for the project have been identified by the developer:

Table 18. 1 -- Mode Split Goals

Mode Split	Goal
Auto	20%
Transit	40%
Bike/Walk	40%

Therefore, by applying this modal share for auto trips generated by the site, the total vehicular traffic entering and exiting the site is shown on Table 18.2.

Table 18.2 – Vehicular Trip Generation Estimates with Modal Share[1]

Land Use (According to Site Plan)	Size	Unit	ITE Land Use	ITE Land Use Code	Net New Trip Generation Estimates				
					Daily	AM Peak Hour		PM Peak Hour	
						In	Out	In	Out
Apartments	450	Units	Apartment	220	570	9	36	34	19
Retail	12.5	KSF	Shopping Center	820	352	5	3	14	15
TOTAL					922	54		83	

Source: Westwood, February 2016

[1] Rates and equations based on ITE Trip Generation Manual, Ninth Edition, 2012.

The total average vehicular trip generation for the site is approximately 922 vehicular trips per day. (It is noted that this represents 20% of the overall trip generation. The other 80% of trips will be split between transit trips and bike/walk trips.)

3. Estimated Maximum Peak Hour Traffic Generated and Time of Occurrence –

   The table above shows the trip generation for AM and PM Peak Hours. The estimated maximum peak hour vehicular traffic will be generated in the PM Peak Hour (83 trips/hour). (As stated above, this represents 20% of the peak hour trip generation. The other 80% of trips will be split between transit trips and bike/walk trips.)

4. Indicate source of trip generation rates used in the estimates –

   Source: Trip Generation Manual, Ninth Edition, Institute of Transportation Engineers, Washington, DC, 2012.

5. Availability of Transit and/or Other Alternative Transportation Modes –

   Currently, there are many transit and alternative transportation modes available to tenants, residents, employees and customers coming to and from this site. Most obvious is the Metro Green Line which runs along Washington Avenue SE directly north of the proposed development. The East Bank Station of the Metro Green Line is 200 feet to the west. There are twenty-three separate bus routes (including Metro Transit, U of M Connector, Southwest Transit and other services) that run along Washington Avenue SE and/or have bus stops within walking distance of the proposed development. There are also a vast array of sidewalks and bicycle routes that crisscross the U of M campus area, and are within walking and riding distance of the proposed development.

   Regarding alternate modes during the warmer months, NiceRide MN has located more than ten stations for shared bicycles on the East Bank of the U of M., four of which are within two blocks to the west of 600 University Avenue SE. Further, shared auto companies such as HOURCAR, have stations on campus within a few blocks of the site. Other shared vehicle companies such as Car2Go and ZipCar have emerged and provide internet based rental of vehicles, with availability based on usership.

b. *Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. <u>If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.</u> Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: http://www.dot.state.mn.us/accessmanagement/resources.html) or a similar local guidance,*

A traffic impact study was conducted as part of the TDMP for the 600 Washington Avenue SE site. Because of the proximity to the U of M, to shopping, dining and entertainment, reliance on auto travel is less likely by tenants of 600 University SE residential units. Further, the availability of alternated modes of travel (i.e., transit, pedestrian, bicycle, etc.) translates to fewer auto trips during weekday peak traffic periods, thus lessening the overall impact to the regional highway transportation system.

c. *Identify measures that will be taken to minimize or mitigate project related transportation effects.*

The 600 Washington Avenue SE development will minimize or mitigate project related transportation effects; via the adoption of Travel Demand Management Plan, including strategies such as:

- Support and encourage alternate modes of transportation by tenants and employees; and provide information to its users on availability of these modes
- Locate loading and delivery areas off of City streets and onto the service drive
- Combine loading and parking access from street onto a single driveway off of Harvard Street.

Full recommendations and conclusions can be found in the **Appendix K** – Travel Demand Management Plan.

19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. *Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.*

It is anticipated that project demolition would begin in 2016, with project construction immediately following. Full build-out is anticipated by 2018.

Cumulative effects of this and future projects on natural resources and infrastructure are expected to be roughly proportional to the impacts discussed in this EAW, or somewhat greater if future surrounding projects are developed at a higher density. The City of Minneapolis has planned for future growth and development as part of the *Minneapolis Plan for Sustainable Growth* (the City's Comprehensive Plan (2009), *Local Surface Water Management Plan* (2006), the *Ten-Year Citywide Transportation Action Plan* (2009), and the *Stadium Village University Avenue Station Area Plan* (the Stadium Village Plan, 2012). These efforts would ensure that the cumulative impacts of future

growth and development to the environment, and to the City's service capacity, are anticipated and mitigated.

b. *Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.*

The project proposer does not currently own or have options on adjacent lands. Surrounding parcels are completely developed, so the only potential projects in the area would be re-development projects. Because neighboring lots are completely developed, and redevelopment is based on market drivers and conditions, the timing of future redevelopment can be difficult to predict. The City's Comprehensive Plan anticipates and guides the intensity of development within the city and directs necessary infrastructure improvements to support future development projects. These planning efforts serve to avoid and mitigate potential cumulative environmental effects from projects that may be completed within the same general geographic area and timeframes.

c. *Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.*

Minor, cumulative impacts to city infrastructure such as roads, sewer, and water would occur should surrounding parcels develop into other uses. However, these cumulative impacts have been contemplated and addressed in the *Minneapolis Plan for Sustainable Growth*, and other plan documents previously discussed. Should surrounding properties develop in the future, they would be evaluated under the Minnesota Environmental Policy Act (MEPA) rules, and would adhere to guidelines presented in the City's approved zoning and comprehensive plans.

Mitigation for anticipated minor cumulative impacts in the area would include using green construction and demolition practices, green material specifications and landscaping, and implementing stormwater BMPs. These provisions would help minimize cumulative effects from past and future developments. Given the nature of potential cumulative effects, the evaluation of available and relevant information, and mitigation efforts proposed, the project is not expected to result in significant environmental effects.

20. Other potential environmental effects:

If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment would be affected, and identify measures that would be taken to minimize and mitigate these effects.

All known potentially adverse environmental effects are addressed in the preceding sections.

RGU CERTIFICATION. *(The Environmental Quality Board would only accept* ***SIGNED*** *Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- ☑ The information contained in this document is accurate and complete to the best of my knowledge.
- ☑ The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- ☑ Copies of this EAW are being sent to the entire EQB distribution list.

Signature Hilary Dvorak Date March 23, 2016

Title: Hilary Dvorak, Principal Planner

Exhibits 1 - 9

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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Map Document: N:\0008298.00\GIS\HUB_SiteLocation01A_160222.mxd 2/22/2016 1:40:29 PM

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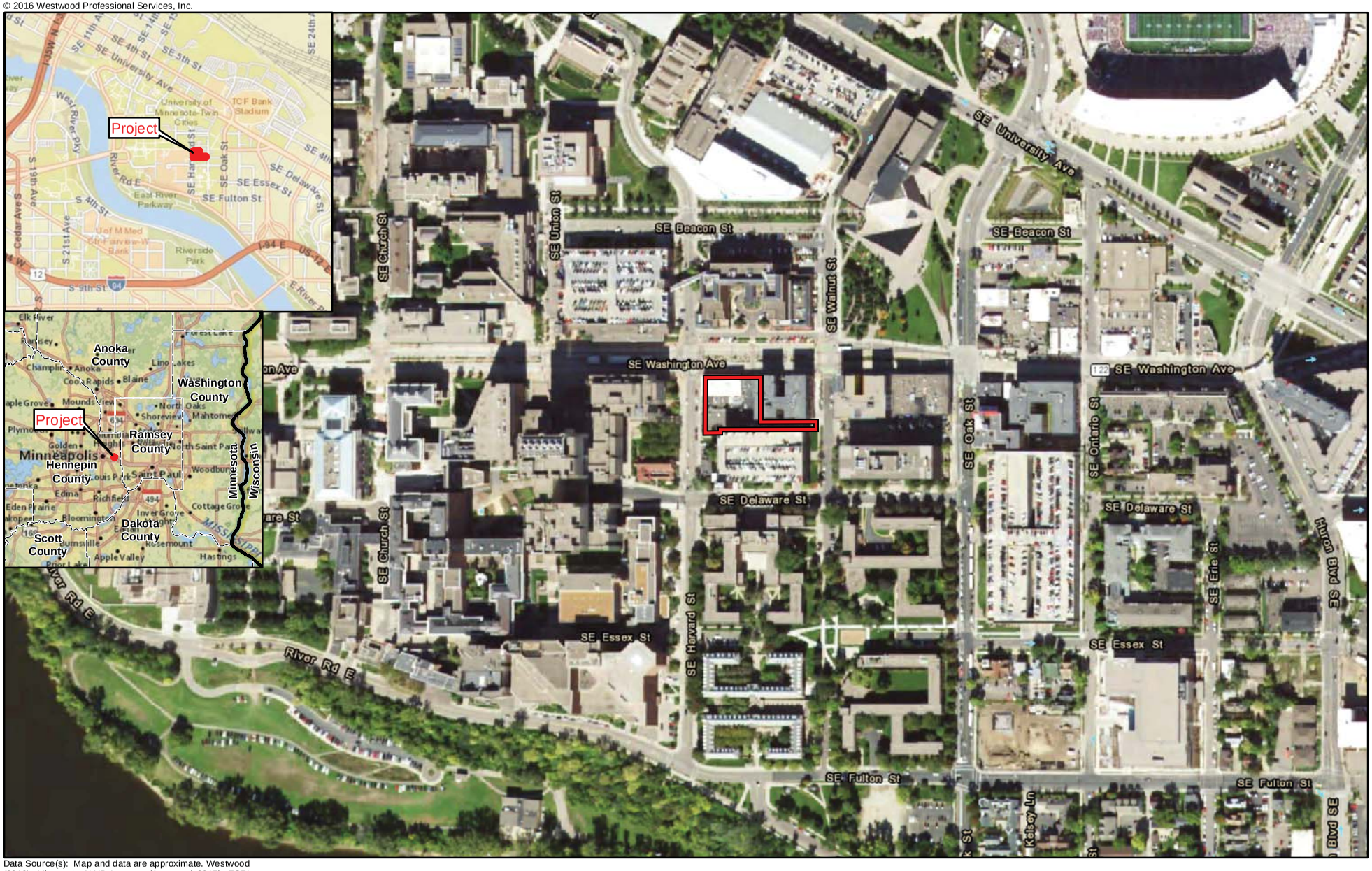

Data Source(s): Map and data are approximate. Westwood (2016); Minnesota NAIP Imagery (Accessed 2015); ESRI WMS Topographic, National Geographic, & USA Topo and World Imagery, Streets (Accessed 2015); ESRI (2010); MNTOPO (2015); Census Bureau (2014); USGS NHD Dataset (2013); MnDNR (2008); FEMA (2010); Minnesota Department of Natural Resources, Ducks Unlimited, and St. Mary's University of Minnesota (2015); U.S. Department of Agriculture, Natural Resources Conservation Service (2010); U.S. Geological Survey (2011); Google (2015).

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Legend

Project Boundary

N

0 400 Feet

600 Washington Avenue SE

Minneapolis, Minnesota

Site Location

EXHIBIT 1

Map Document: N:\0008298.00\GIS\HUB_UGSGtopography01A_160222.mxd 2/22/2016 1:43:00 PM

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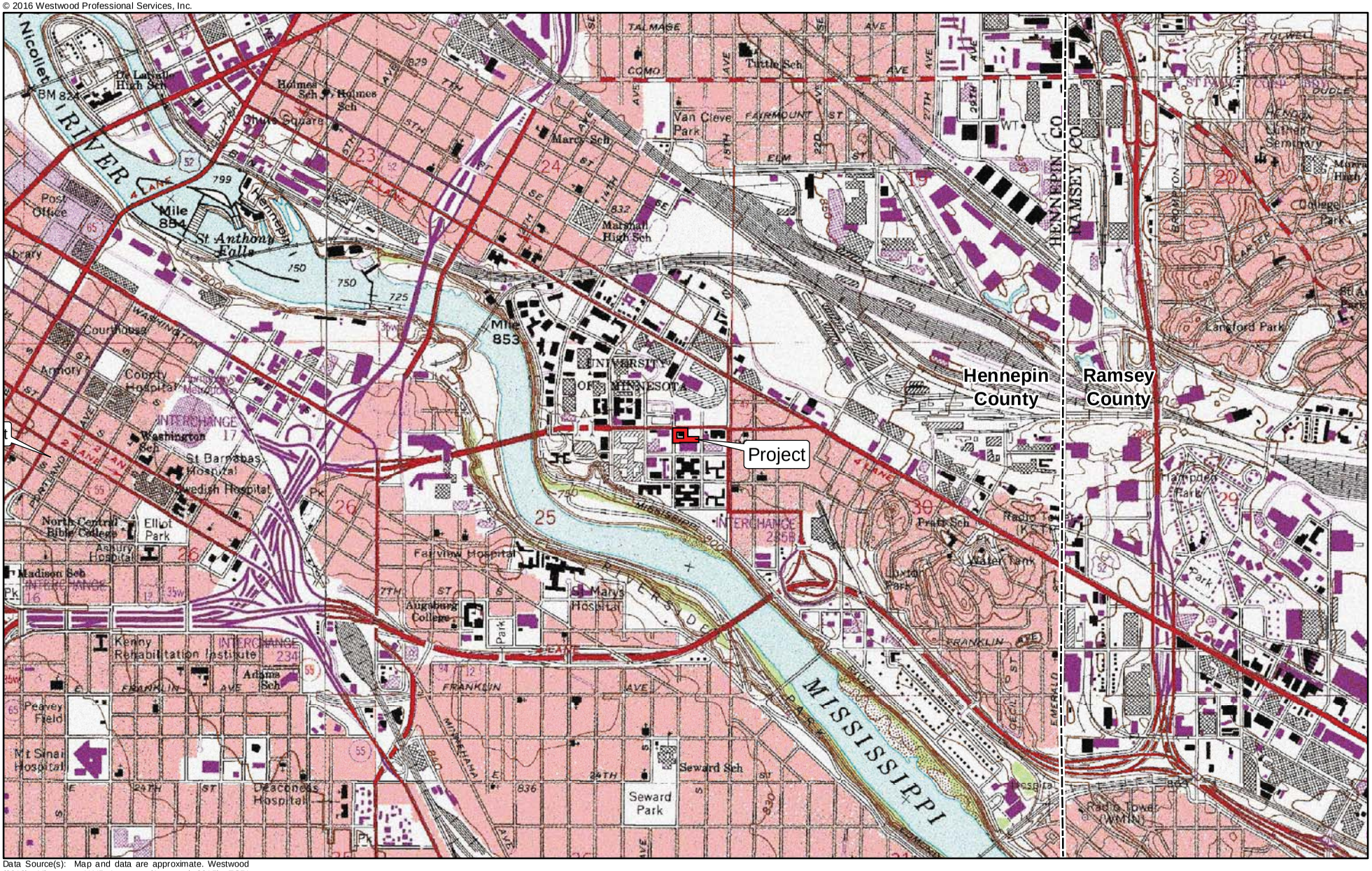

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Legend

- Project Boundary
- County Boundary

N

0 2,000 Feet

600 Washington Avenue SE

Minneapolis, Minnesota

USGS Topography

EXHIBIT 2

PRIMARY ZONING DISTRICTS

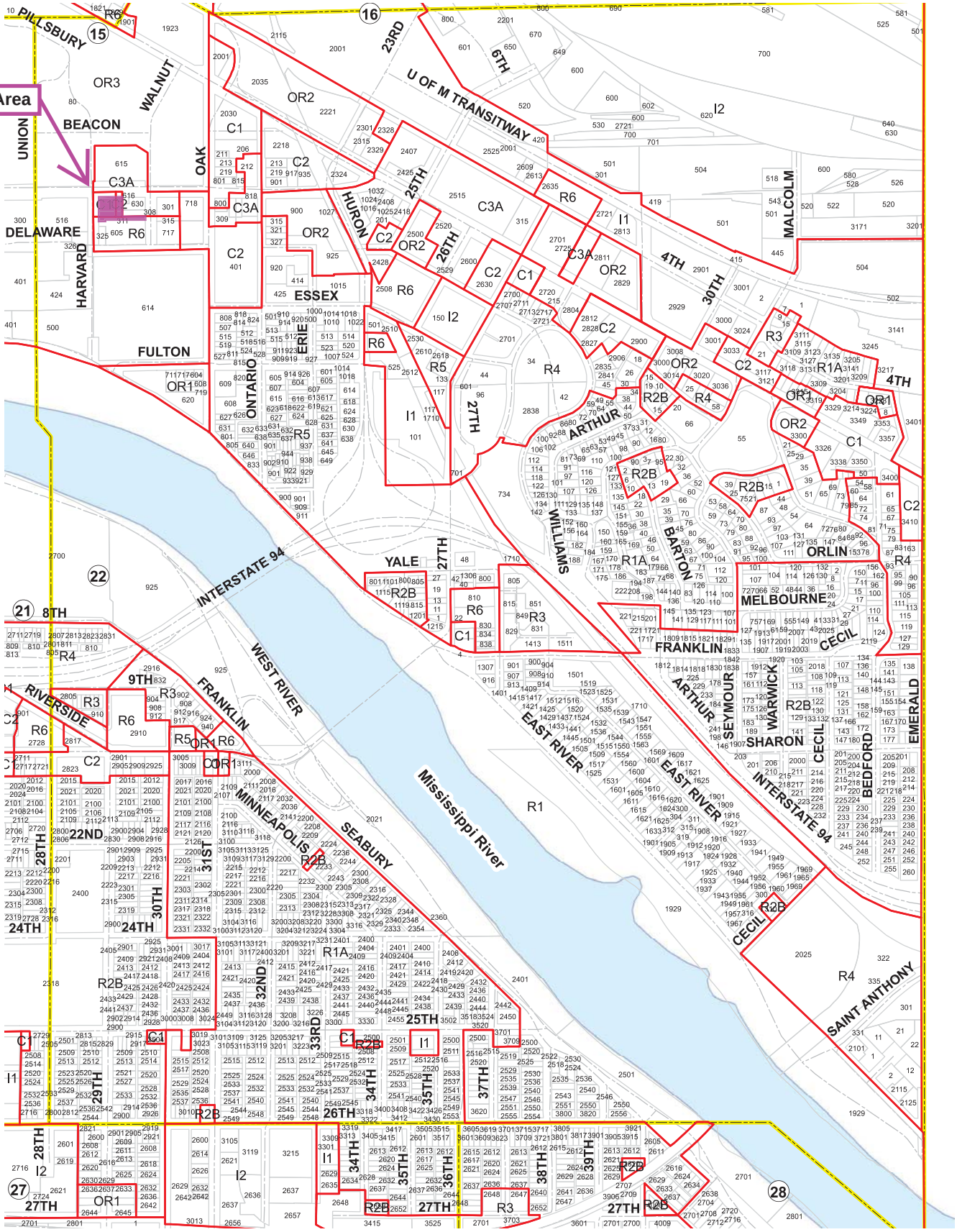


EXHIBIT 3

RESIDENCE DISTRICTS
- LOW DENSITY
  - R1
  - R1A
  - R2
  - R2B
- MEDIUM DENSITY DISTRICTS
  - R3
  - R4
- HIGH DENSITY DISTRICTS
  - R5
  - R6

OFFICE RESIDENCE DISTRICTS
- OR1
- OR2
- OR3

COMMERCIAL DISTRICTS
- C1
- C2
- C3A
- C3S
- C4

DOWNTOWN DISTRICTS
- B4
- B4C
- B4S

INDUSTRIAL DISTRICTS
- I1
- I2
- I3

N

(12) PLATE NUMBER

Last Amended : February 21, 2014

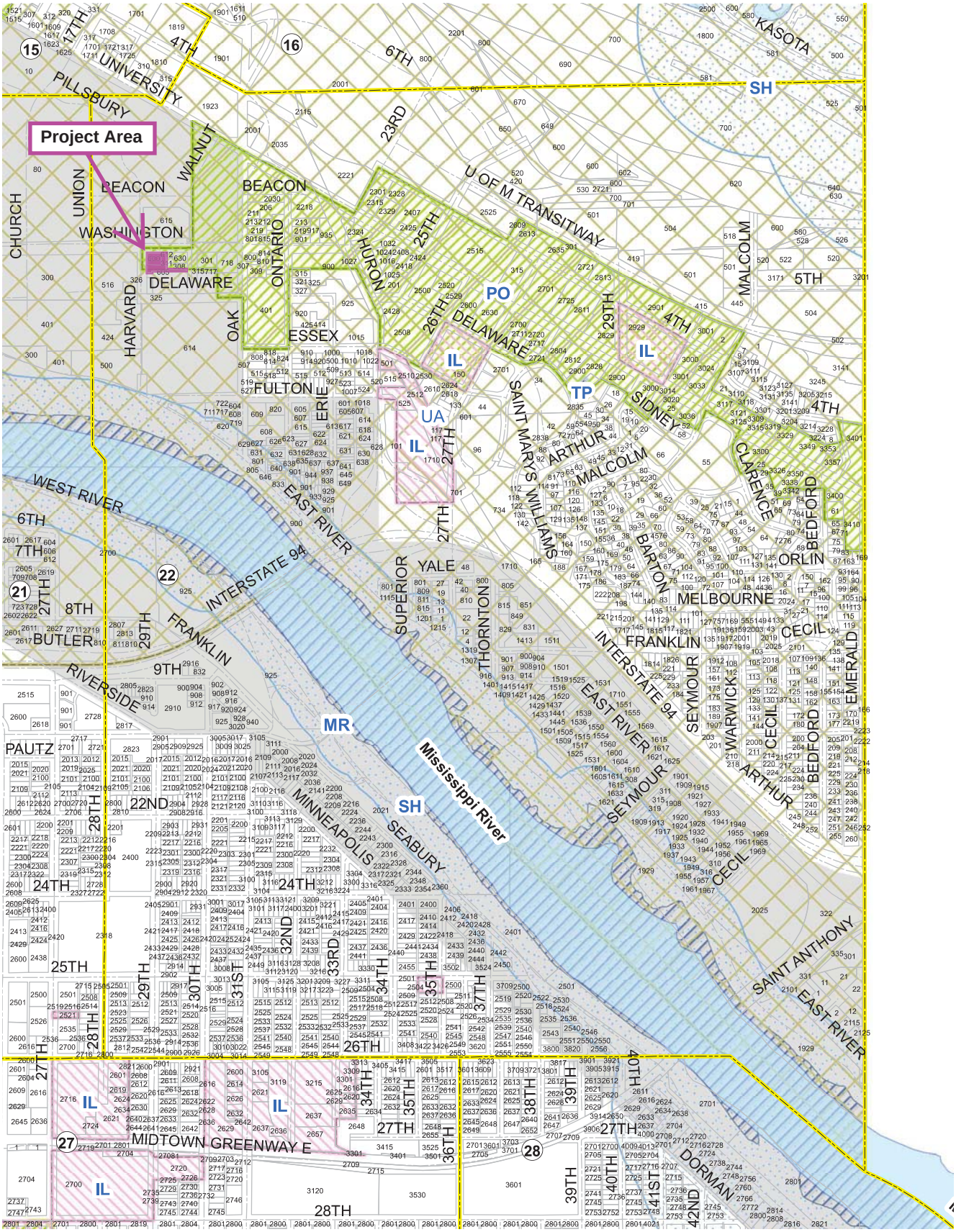
Primary Zoning

Plate Boundaries

0 250 500 1,000 1,500 Feet

MINNEAPOLIS ZONING PLATE 22

OVERLAY ZONING DISTRICTS



Overlay Districts

- Airport
- Downtown Housing
- Downtown Height
- Downtown Parking
- Downtown Shelter
- Harmon Area
- Industrial Living
- Linden Hills
- Nicollet Mall
- North Phillips
- Pedestrian Oriented
- Transitional Parking
- University Area
- West Broadway
- Shoreland
- Floodplain
- Mississippi River Critical Area

N

12 PLATE NUMBER

Last Amended : February 21, 2014

EXHIBIT 4

Wetland

Plate Boundaries

0 250 500 1,000 1,500 Feet

MINNEAPOLIS ZONING PLATE 22

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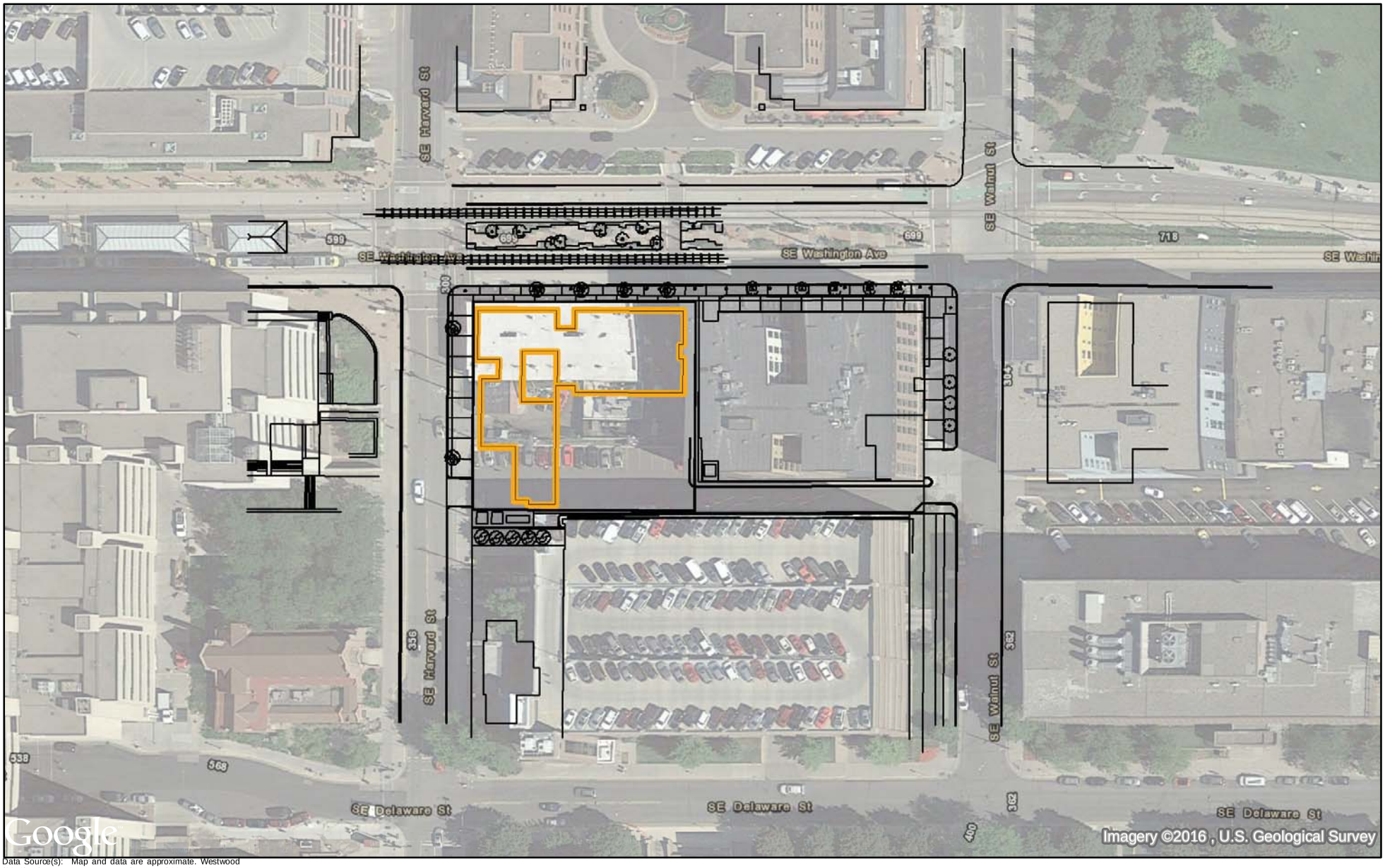

Data Source(s): Map and data are approximate. Westwood (2016); Minnesota NAIP Imagery (Accessed 2015); ESRI WMS Topographic, National Geographic, & USA Topo and World Imagery (Accessed 2015); ESRI (2010); MNTOPO (2015); U.S. Geological Survey (2011); HPA-Architecture (2016); Google (2015).

Legend

Proposed Building

Site Plan

600 Washington Avenue SE

Minneapolis, Minnesota

N

0 100 Feet

Site Plan

EXHIBIT 5

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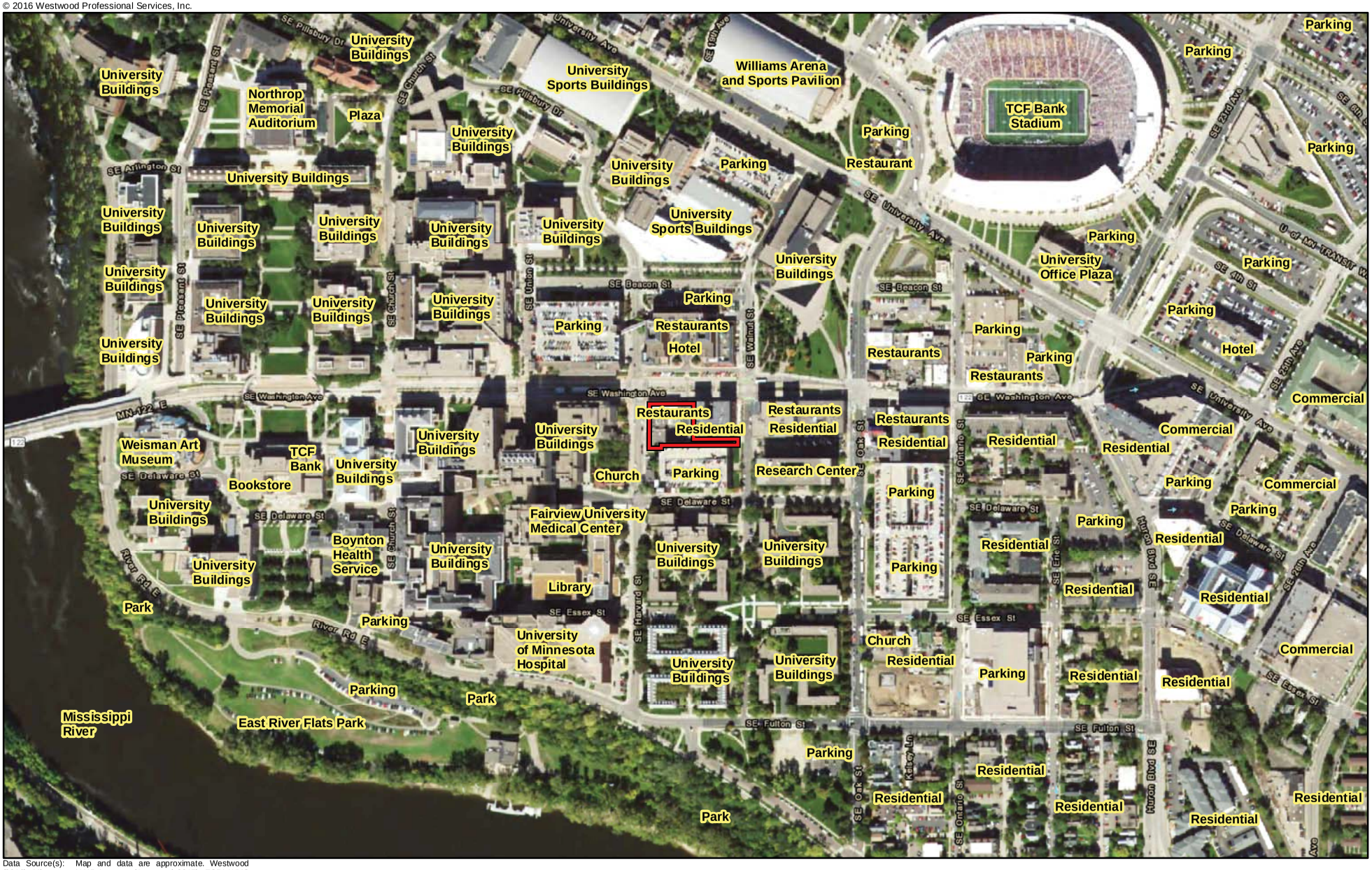

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Legend

Project Boundary

N

0 500 Feet

600 Washington Avenue SE

Minneapolis, Minnesota

Land Use and Land Cover

EXHIBIT 6

Map Document: N:\0008298.00\GIS\HUB_WaterResources01A_160222.mxd 2/22/2016 1:45:10 PM

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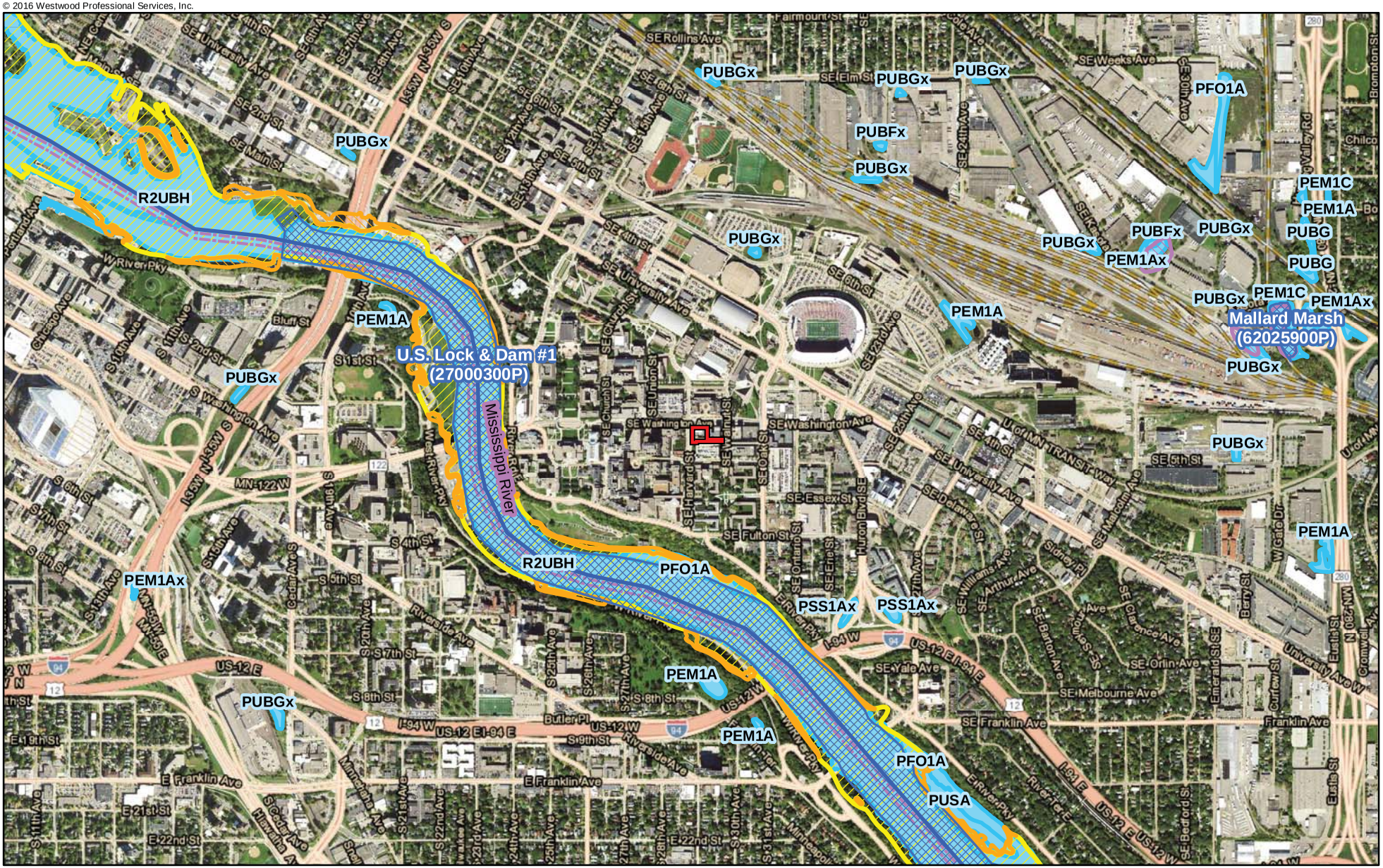

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Legend

- Project Boundary
- NHD Flowline
- NHD Waterbody
- MN DNR PWI Watercourse
- MN DNR PWI Waterbody
- NWI Wetland
- 100 yr. Flood
- 500 yr. Flood

N

0 1,500 Feet

600 Washington Avenue SE

Minneapolis, Minnesota

Water Resources

EXHIBIT 7

Map Document: N:\0008298.00\GIS\HUB_NRCSsoils02A_160222.mxd 2/22/2016 1:37:21 PM

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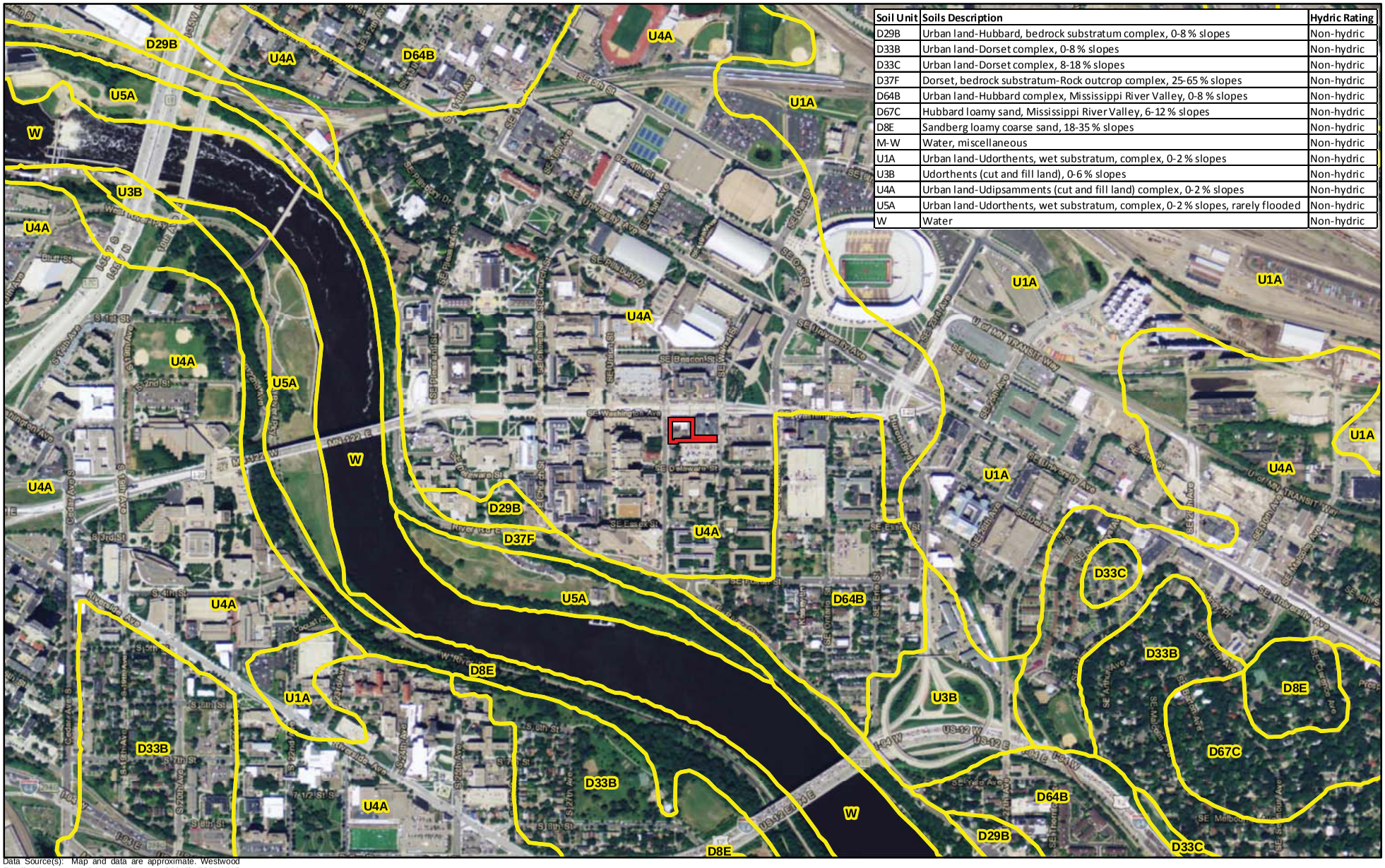

Soil Unit	Soils Description	Hydric Rating
D29B	Urban land-Hubbard, bedrock substratum complex, 0-8 % slopes	Non-hydric
D33B	Urban land-Dorset complex, 0-8 % slopes	Non-hydric
D33C	Urban land-Dorset complex, 8-18 % slopes	Non-hydric
D37F	Dorset, bedrock substratum-Rock outcrop complex, 25-65 % slopes	Non-hydric
D64B	Urban land-Hubbard complex, Mississippi River Valley, 0-8 % slopes	Non-hydric
D67C	Hubbard loamy sand, Mississippi River Valley, 6-12 % slopes	Non-hydric
D8E	Sandberg loamy coarse sand, 18-35 % slopes	Non-hydric
M-W	Water, miscellaneous	Non-hydric
U1A	Urban land-Udorthents, wet substratum, complex, 0-2 % slopes	Non-hydric
U3B	Udorthents (cut and fill land), 0-6 % slopes	Non-hydric
U4A	Urban land-Udipsamments (cut and fill land) complex, 0-2 % slopes	Non-hydric
U5A	Urban land-Udorthents, wet substratum, complex, 0-2 % slopes, rarely flooded	Non-hydric
W	Water	Non-hydric

Data Source(s): Map and data are approximate. Westwood (2016); Minnesota NAIP Imagery (Accessed 2015); ESRI WMS Topographic, National Geographic, & USA Topo and World Imagery (Accessed 2015); ESRI (2010); MNTOPO (2015); Census Bureau (2014); USGS NHD Dataset (2013); MnDNR (2008); FEMA (2010); Minnesota Department of Natural Resources, Ducks Unlimited, and St. Mary's University of Minnesota (2015); U.S. Department of Agriculture, Natural Resources Conservation Service (2014), Soil Survey Geographic (SSURGO) database for Hennepin County,MN; U.S. Geological Survey (2011); Google (2015).

Legend

Project Boundary

Soils Unit

600 Washington Avenue SE

Minneapolis, Minnesota

N

0 1,000 Feet

NRCS Soils

EXHIBIT 8

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Map Document: N:\0008298.00\GIS\HUB_NHIS01A_160222.mxd 2/22/2016 1:15:18 PM

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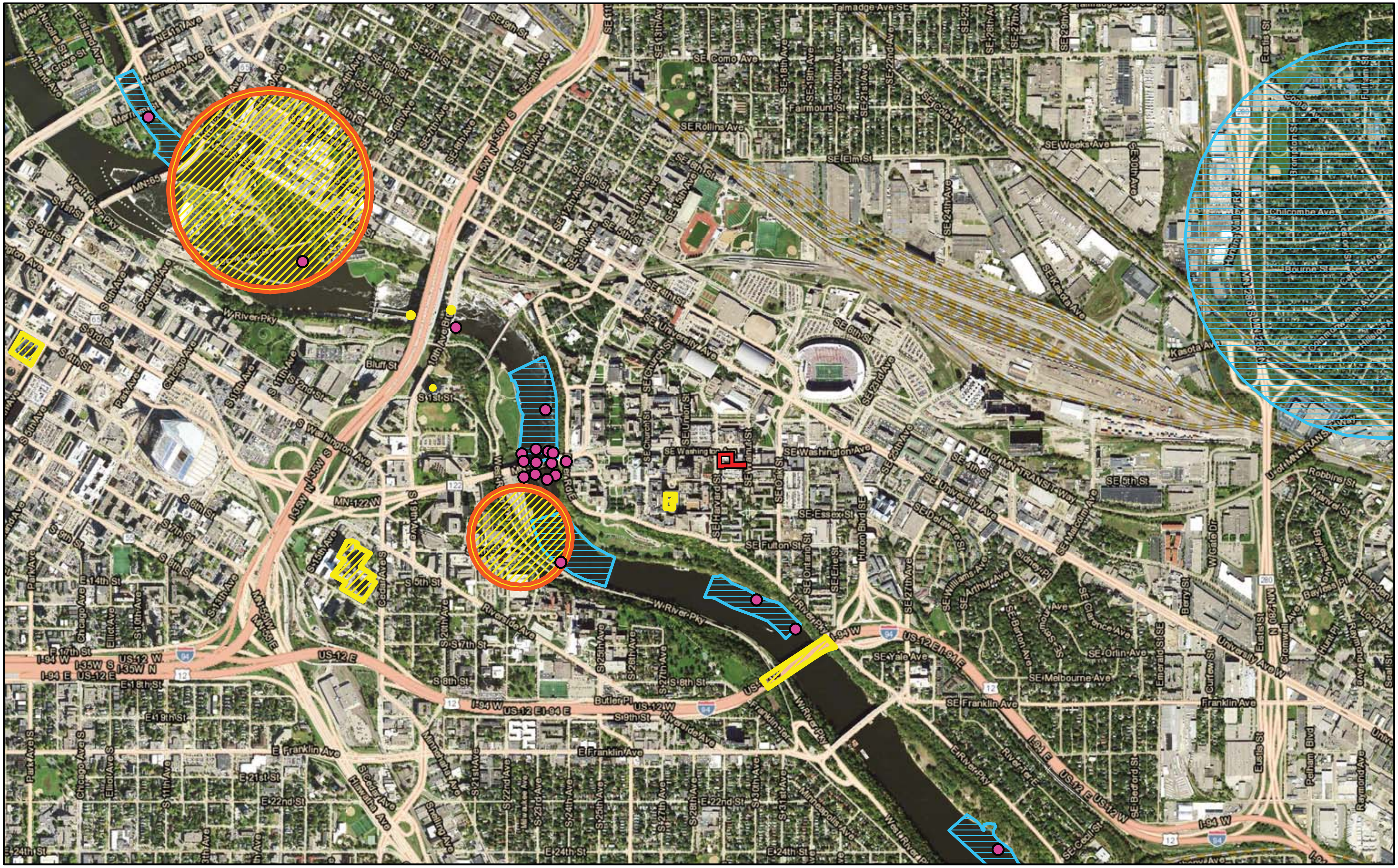

Data Source(s): Map and data are approximate. Westwood (2015); Minnesota NAIP Imagery (Accessed 2015); ESRI WMS Topographic, National Geographic, & USA Topo and World Imagery and Transportation (Accessed 2015); ESRI (2010); MNTOPO (2015); Census Bureau (2014); USGS NHD Dataset (2013); MnDNR (2008); FEMA (2010); Soil Survey Geographic (SSURGO) database for Hennepin County,MN; U.S. Geological Survey (2011); U.S. Fish and Wildlife Service (2013), USGS NHD Dataset (2013), FEMA (various dates). State of Minnesota, Department of Natural Resources, NHIS Database (2015); Google (2015).

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Legend

- Project Boundary
- MnDNR NHIS Mussel Survey

MnDNR NHIS Category

- Animal Assemblage
- Invertebrate Animal
- Vertebrate Animal

Note: Copyright 2015, State of Minnesota, Department of Natural Resources, "NHIS data included here were provided by the Division of Ecological and Water Resources, Minnesota Department of Natural Resources (DNR), and were current as of May 2015. These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present."

N

0 1,800 Feet

600 Washington Avenue SE

Minneapolis, Minnesota

MN DNR NHIS Database

EXHIBIT 9

Appendix A

Current Use As-Built Survey

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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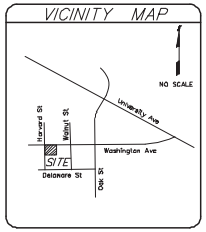
VICINITY MAP



LEGEND

○	Denotes iron monument set marked with P.L.S. No. 44890
●	Denotes found iron monument
◉	Denotes 1.17 inch diameter brass colored copper magnetized marker with disc cap affixed stamped LS-44890 set
AC	Denotes air conditioner
AIS	Denotes advertising and information sign
BE	Denotes building entrance
CB	Denotes catch basin
CBOX	Denotes control box
CBX	Denotes communication box
CLRR	Denotes centerline railroad track
COL	Denotes building column
CS	Denotes curb stop
DG	Denotes drain grate
EM	Denotes electric meter
EMH	Denotes electric manhole
FH	Denotes fire hookup
GAS V	Denotes gas valve
GP	Denotes guard post
HCPB	Denotes handicap push button
HCR	Denotes handicap ramp
HH	Denotes hand hole
HHE	Denotes electric hand hole
HHF	Denotes fiber optic hand hole
HYD	Denotes fire hydrant
LP	Denotes light pole
MC	Denotes metal cover
MG	Denotes metal grate
MH	Denotes manhole
OD	Denotes overhead door
OHE	Denotes overhead electric
OHU	Denotes overhead utility line
(P)	Denotes per plan
PKS	Denotes parking sign
PM	Denotes parking meter
PORC	Denotes portable curb
PP	Denotes power pole
PPLP	Denotes power pole light pole
PPU	Denotes utility power pole
PVC	Denotes polyvinylchloride pipe
RCP	Denotes reinforced concrete pipe
RD	Denotes roof drain
SAN	Denotes sanitary manhole
SAN S	Denotes sanitary sewer
SMH	Denotes storm manhole
ST S	Denotes storm sewer
TCS	Denotes traffic control sign
TL	Denotes traffic light
TRANS	Denotes transformer
UGC	Denotes underground communication line
UGE	Denotes underground electric line
W	Denotes water line
WMH	Denotes water manhole
WST	Denotes wood steps
WV	Denotes water valve
TR	Denotes deciduous tree

FLOOD ZONE NOTE

1.) The subject property lies within Zone X (Areas determined to be outside the 0.2% annual chance floodplain) per the National Flood Insurance Program, Flood Insurance Rate Map Community Panel No. 2701720376E, dated September 2, 2004.

ZONING NOTES

1.) Zoning information obtained from the City of Minneapolis web site on December 16, 2015.

600 Washington Ave. SE and 311 Harvard St. SE are zoned C1. (Commercial District)
612 Washington Ave. SE is zoned C2. (Commercial District)

2.) Parking: 33 Regular stalls

AREA

Area = 29,713 square feet or 0.682 acres

TAX PARCELS

25-029-24-14-0021 600 Washington Ave. SE
25-029-24-11-0008 612 Washington Ave. SE
25-029-24-14-0058 311 Harvard St. SE

DESCRIPTION OF PROPERTY SURVEYED

(Per First American Title Insurance Company Commitment for Title Insurance, Commitment No. NCS-693278-MPLS, commitment date, October 4, 2014)

Parcel A:
The West 120 feet of Lot 6 and the West 120 feet of the North 34 feet of Lot 7, Block 31, St. Anthony City.

Parcel B:
The East 45 feet of Lot 6 and the East 45 feet of the North 34 feet of Lot 7, Block 31, St. Anthony City.

(Abstract property)

AND
(Per First American Title Insurance Company Commitment for Title Insurance, Commitment No. NCS-769560-MPLS, commitment date, December 18, 2015)

The northerly 22.50 feet of Lot 3, Block 31, St. Anthony City Addition, Hen County, Minnesota.

The South 32 feet of Lot 7 and the North 33 feet of Lot 8, Block 31, St. Anthony City Addition, Hennepin County, Minnesota, except the southerly 10.50 feet of the northerly 33.00 feet of the easterly 120.00 feet of said Lot 8, Block 31, St. Anthony City Addition.

ABSTRACT PROPERTY

PLAT RECORDING INFORMATION

The plat of St. Anthony City was originally filed of record on January 3, 1849.

TITLE COMMITMENTS

First American Title Insurance Company Commitment for Title Insurance, Commitment No. NCS-693278-MPLS, commitment date, October 4, 2014, and Commitment No. NCS-769560-MPLS, commitment date, December 18, 2015, were relied upon as to matters of record.

Schedule B Exceptions:

(Commitment No. NCS-693278-MPLS)

13. Possible overlap of the Land with the parcel to the south, as conveyed by the Warranty Deed, from the Regents of the University of Minnesota, as grantor, to Grace Evangelical Lutheran Church of Minneapolis, as grantee, dated May 17, 1976, recorded October 15, 1981, as Doc. No. 4677947.

(1) Exceptions are indicated on survey with circled numbers where applicable.

(Commitment No. NCS-769560-MPLS)

10. Reservation by Regents of the University of Minnesota of minerals and mineral rights in Warranty Deed dated May 6, 1986, recorded May 7, 1986, as Document No. 5106186.
11. Easement for placement of footings for a parking ramp reserved by Regents of the University of Minnesota in Warranty Deed dated May 6, 1986, recorded May 7, 1986, as Document No. 5106186.
12. Easement for placement of footings for a parking ramp in favor of Regents of the University of Minnesota as contained in Warranty Deed dated April 27, 1986, recorded May 9, 1986, as Document No. 5107131.
13. Easement for buried telecommunications facilities in favor of Qwest Corporation as contained in Easement Agreement recorded February 15, 2006, as Document No. 8749103.
14. Possible gaps and/or overlaps between the portion of the Land included in Lot 7, Block 31, St. Anthony City Addition, and the parcels adjoining to the north. Said adjoining parcels are described as being in the North 34 feet of said Lot 7.
15. Possible gap within the portion of the Land included in Lot 8, Block 31, St. Anthony City Addition. Prior ownership was divided into the North 18 feet and the South 48 feet of said Lot 8.

GENERAL NOTE

1.) Survey coordinate basis: Hennepin County Coordinate System

2.) Because of an excess in Block 31 there is an excess of 0.14 ft. for each Lot on the west side of the Block and an excess of 0.08 ft. per Lot on the east side of said Block. This creates a Gap in the descriptions as noted on the survey.

UTILITY NOTES

1.) Utility information from plans and markings was combined with observed evidence of utilities to develop a view of the underground utilities shown hereon. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, excavation may be necessary.

2.) Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.

3.) Some underground utility locations are shown as marked onsite by those utility companies whose locators responded to our Gopher State One Call, ticket numbers 153270345.

4.) Contact GOPHER STATE ONE CALL at 651-454-0002 (800-252-1166) for precise onsite location of utilities prior to any excavation.

SURVEYOR'S CERTIFICATION

To: 600 Washington Partnership, a Minnesota general partnership, Grace Evangelical Lutheran Church of Minneapolis, a Minnesota religious corporation, Stadium Village Partners LLC and First American Land Title Insurance Company.

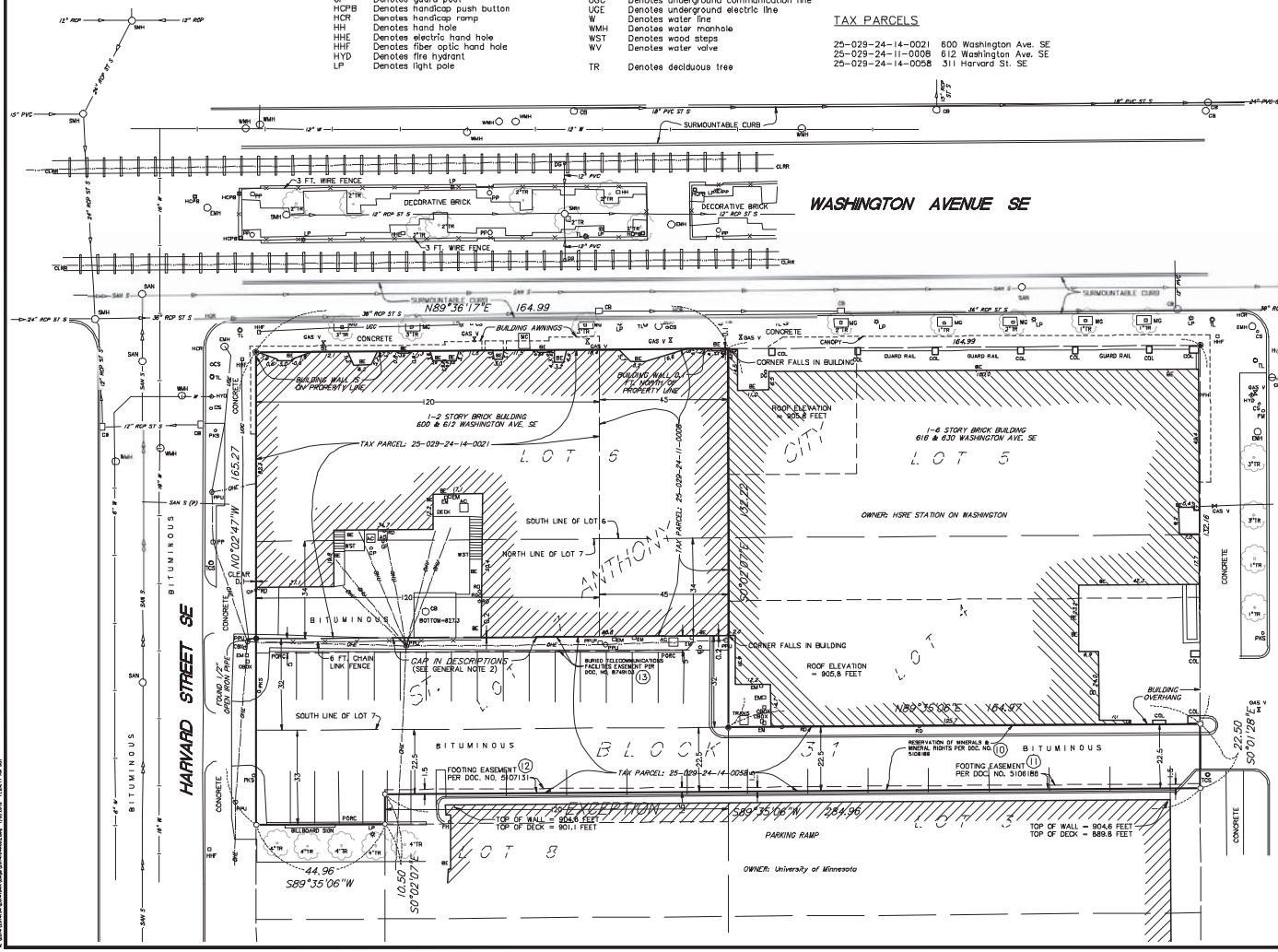
This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 7(a), 11(b), 13, 14 and 18 of Table A thereof. The field work was completed on December 2, 2015.

Dated this 5th day of January, 2016

SUNDE LAND SURVEYING, LLC.

By: Mark S. Hanson

Mark S. Hanson, P.L.S. Minn. Lic. No. 15480



1	Title commitment	SMT 01/05/2016
Revision		By Date
		MAP

Drawing Title:
ALTA/ACSM LAND TITLE SURVEY FOR:
HARBOR BAY REAL ESTATE ADVISORS
600 & 612 Washington Avenue and 311 Harvard
Minneapolis, MN

SUNDE LAND SURVEYING
www.sunde.com
Main Office:
9001 East Bloomington Freeway (35W) • Suite 118
Bloomington, Minnesota 55420-3435
952-881-2455 (Fax: 952-888-9528)
West Office:
Mandan, North Dakota 701-663-0562

Project: 2014-184-A Bk/Pg: 659/41	Date: 12/15/2015
Township: 29 Range: 24 Section: 23	Sheet: 1 of 1
File: 2014194A002.dwg	

Appendix B

Concept Renderings

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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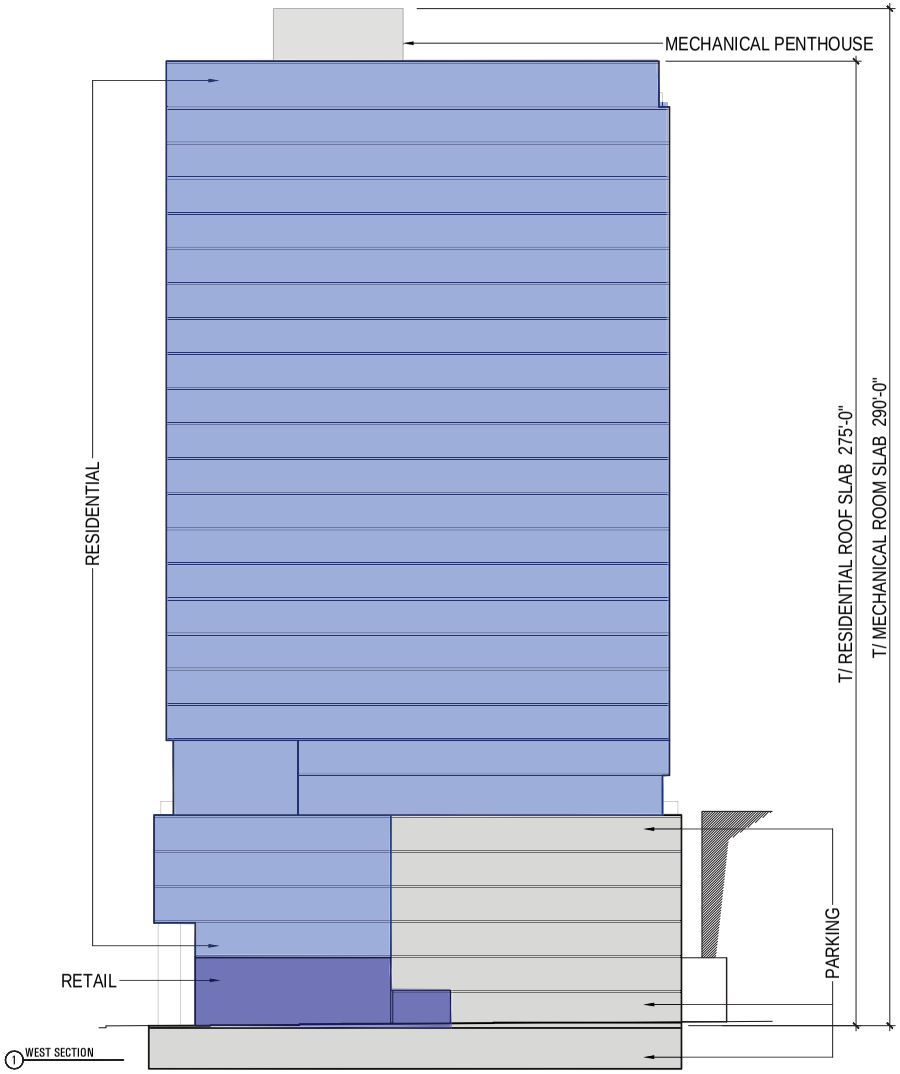
HARTMANN-HUNKAPE ARCHITECTURE
HPA
222 NORTH LASALLE STREET
CHICAGO, IL 60601
312.332.4400
HPARCHITECTURE.COM

600 Washington Avenue SE

MINNEAPOLIS, MN

02-24-16



HARTSHORNE PLUNKARD ARCHITECTURE
HPA
225 NORTH CARPENTER STREET
CHICAGO, IL 60607
312.226.4400
HPARCHITECTURE.COM

600 Washington Avenue SE

Minneapolis, Minnesota

2/23/2016

Appendix C

Typical Building Floor Plans

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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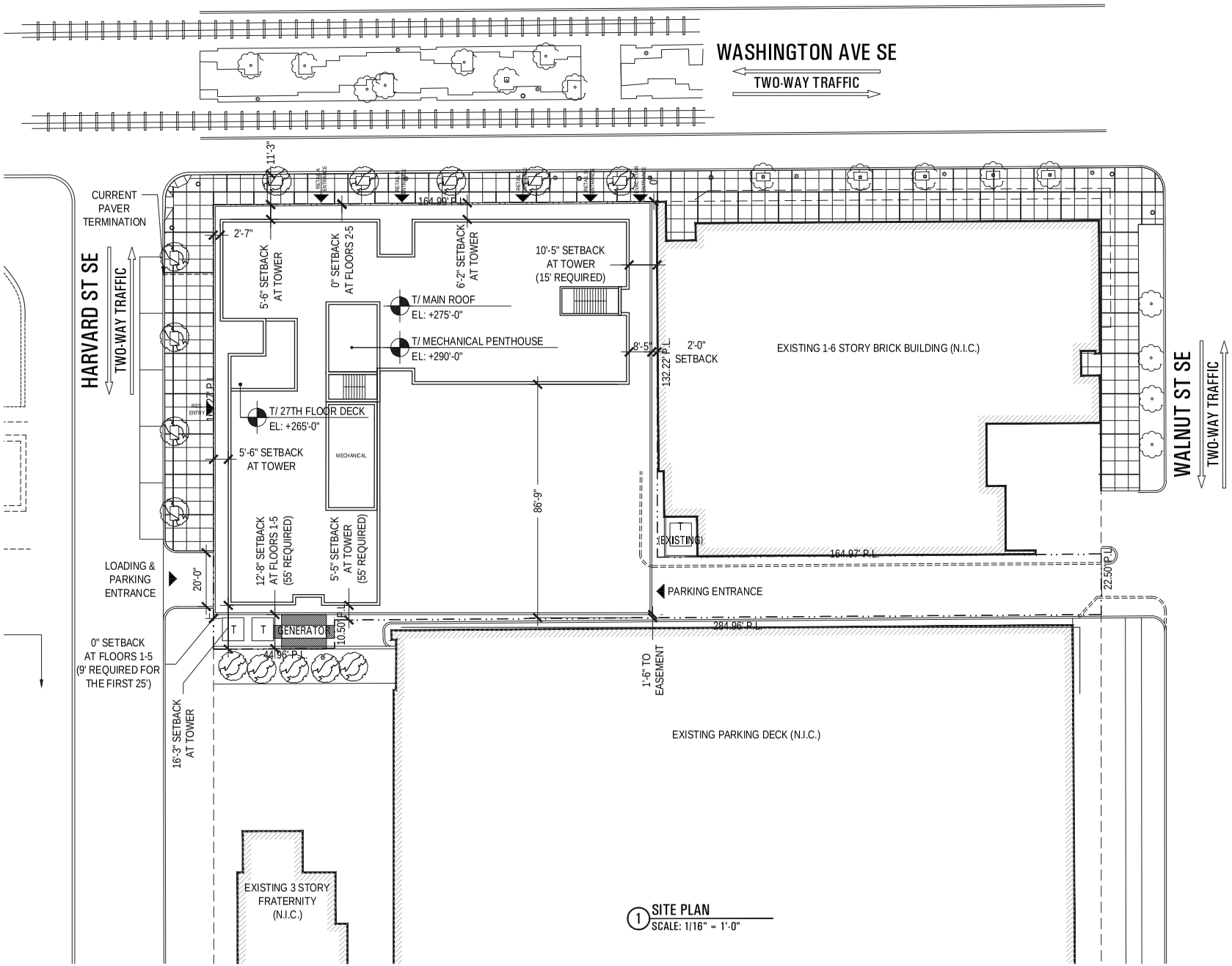

1 SITE PLAN
SCALE: 1/16" = 1'-0"

PROGRESS SET
02.23.16
NOT FOR CONSTRUCTION

SITE NOTES:

1) SEE GRADING PLAN FOR ALL SIDEWALK AND CURB RAMP SLOPES AND DETAILS.

2) SEE SURVEY FOR CONFIRMATION OF EXISTING GRADES.

3) ALL CONCRETE SIDEWALKS TO SLOPE AWAY FROM THE BUILDING FACE.

4) SEE LANDSCAPE PLAN FOR LANDSCAPE DETAILS AND PLANTING SCHEDULE.

5) ALL RAMPS TO COMPLY WITH ADA STANDARDS POSTED ON CDOT WEBSITE, AT ALL STREET AND ALLEY CROSSINGS WHEREVER NEW CONSTRUCTION IS WITHIN 15 FEET OF EXISTING RAMPS.

Contractor shall be responsible for reviewing all Plans and Specifications, verifying all existing conditions prior to proceeding with Construction, complying with all applicable building codes, and notifying Architect immediately of any discrepancies or conflicts. Contractor shall construct the work in conformance with all applicable building codes.

Contractor is responsible for design and installation of properly sized and loaded systems, submit shop drawings to architect for approval on conformity to Architectural design intent.

A written Architectural Specification was issued for this project and along with these printed documents constitute the Contract Documents for this project. Work scope pertinent to all disciplines occurs throughout the Contract Documents. By submitting a bid for this work the Contractor and all subcontractors attest that they have reviewed the entire contract document set and site conditions and have included all applicable work. Additional Architectural Specification copies are available anytime upon request.

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600 Washington Avenue SE

600 Washington Avenue SE
Minneapolis, MN

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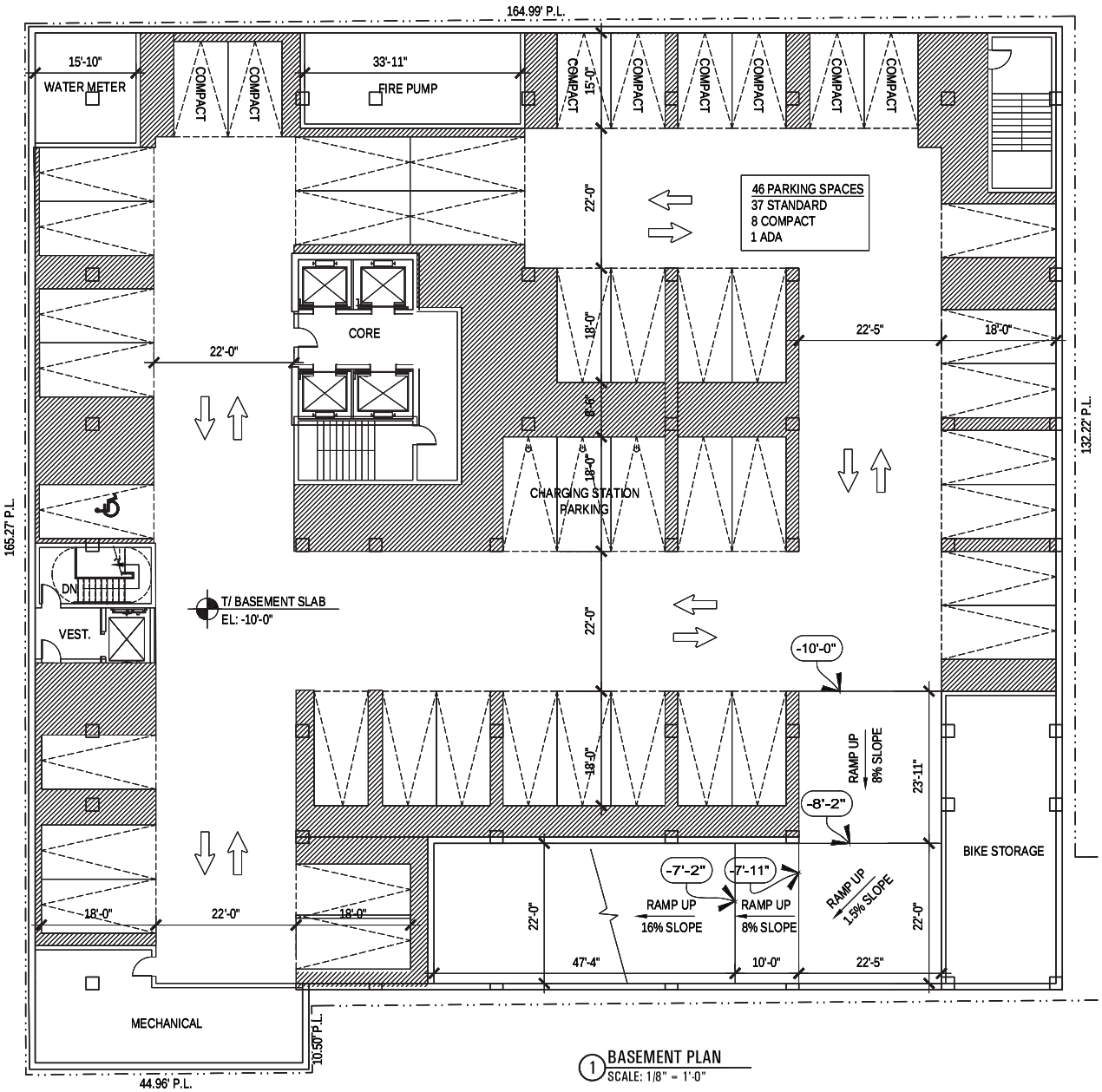
PROJ. # 1601	SCALE: AS NOTED
CK. BY: TPMZ	DN. BY: JADB

SITE PLAN

A0.1



1 BASEMENT PLAN
SCALE: 1/8" = 1'-0"

PROGRESS SET
02.23.16
NOT FOR CONSTRUCTION

PLAN MATERIAL KEY

CIP CONCRETE WALL
CMU BLOCK WALL
MASONRY WALL
PRECAST PANEL
NEW METAL STUD & GYPSUM BOARD WALL

PLAN NOTES

WALL TAGS AS SHOWN PER PLAN ARE REFERENCED IN WALL TYPE SCHEDULE. SEE WALL TYPE SCHEDULE FOR FIRE RATINGS, UL LISTINGS AND ASSEMBLIES.

SEE DOOR SCHEDULE FOR DOOR FIRE RATINGS AND SIZES.

SEE WINDOW SCHEDULE FOR WINDOW ASSEMBLIES.

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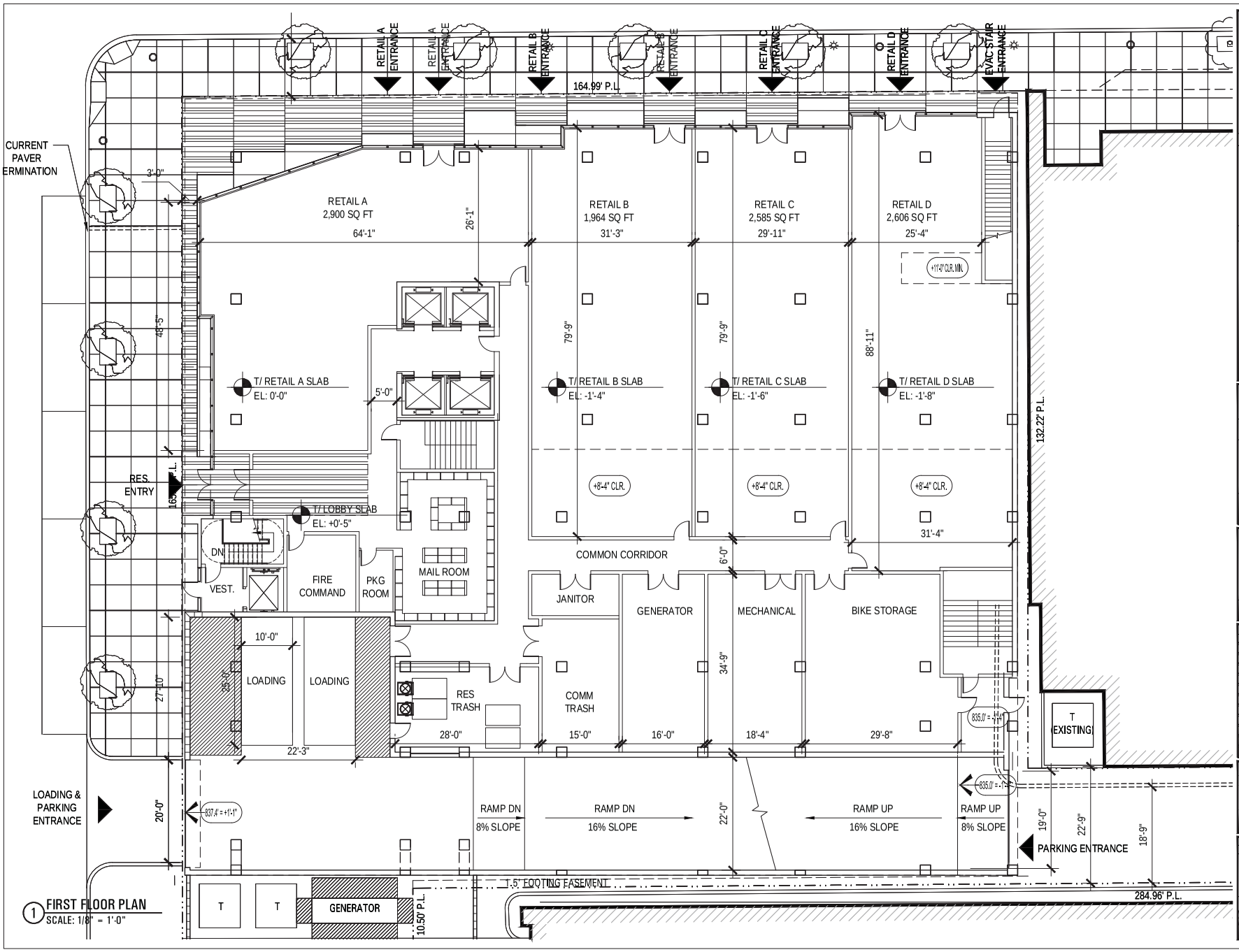
HPA
333 NORTH CONTRACTORS STREET
CHICAGO, IL 60607
312.226.1378
HPARCHITECTURE.COM

PROJ. # 1601	SCALE: AS NOTED
CK. BY: TPMZ	DN. BY: JADB

BASEMENT PLAN

A1.0



1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

PROGRESS SET
02.23.16
NOT FOR CONSTRUCTION

PLAN MATERIAL KEY

- CIP CONCRETE WALL
- CMU BLOCK WALL
- MASONRY WALL
- PRECAST PANEL
- NEW METAL STUD & GYPSUM BOARD WALL

PLAN NOTES

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HPA
333 NORTH CONTINENTAL BLVD
SUITE 100
EL SEGUNDO, CA 90245
310.322.4455
HARTSHORNEPLUNKARD.COM

PROJ. # 1601	SCALE: AS NOTED
CK. BY: TPMZ	DN. BY: JADB

FIRST FLOOR PLAN

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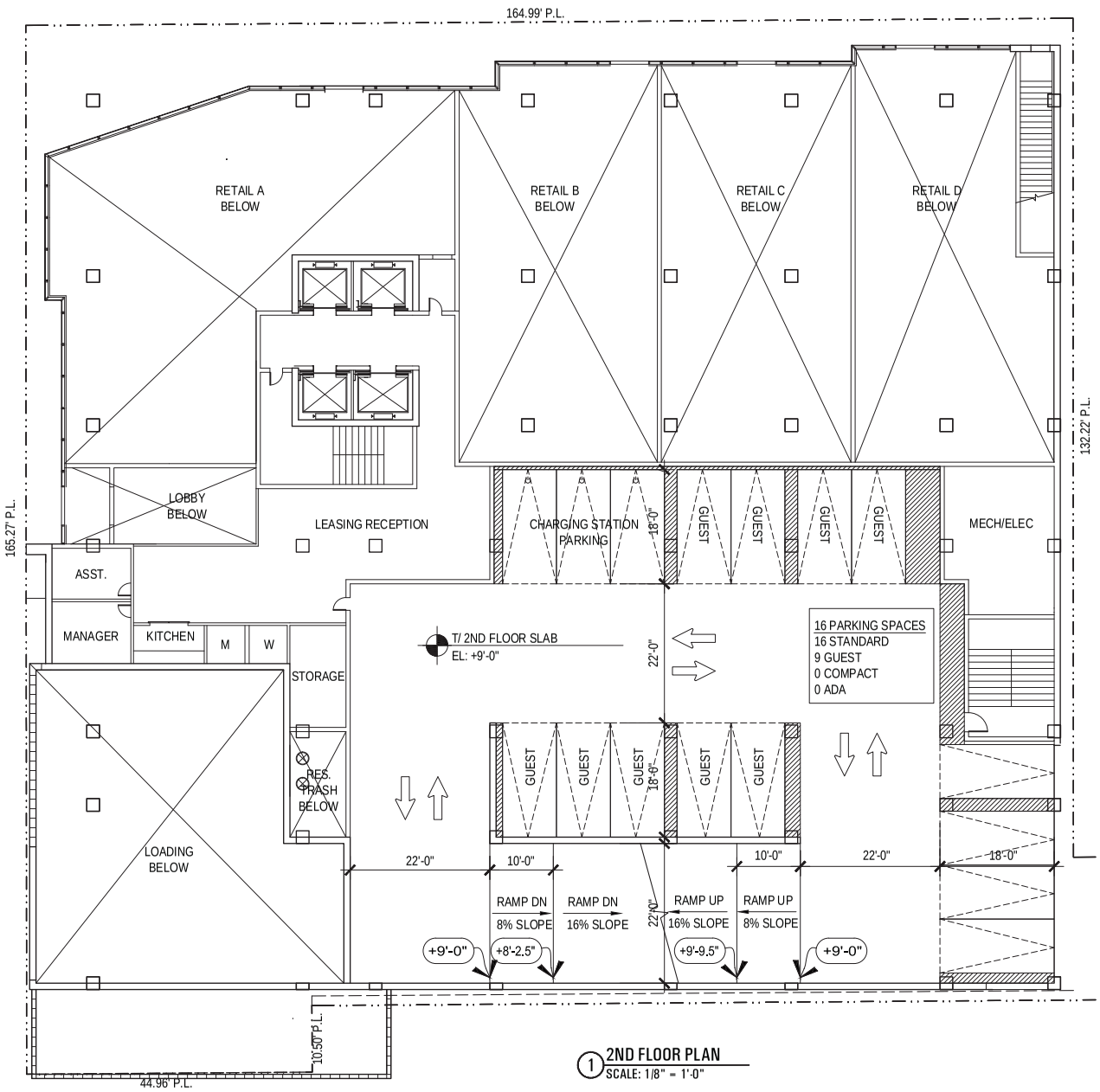

1 2ND FLOOR PLAN
SCALE: 1/8" = 1'-0"

PROGRESS SET
02.23.16
NOT FOR
CONSTRUCTION

PLAN MATERIAL KEY

- CIP CONCRETE WALL
- CMU BLOCK WALL
- MASONRY WALL
- PRECAST PANEL
- NEW METAL STUD & GYPSUM BOARD WALL

PLAN NOTES

- WALL TAGS AS SHOWN PER PLAN ARE REFERENCED IN WALL TYPE SCHEDULE. SEE WALL TYPE SCHEDULE FOR FIRE RATINGS, U. LISTINGS AND ASSEMBLIES.
- SEE DOOR SCHEDULE FOR DOOR FIRE RATINGS AND SIZES.
- SEE WINDOW SCHEDULE FOR WINDOW ASSEMBLIES.

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2ND FLOOR PLAN

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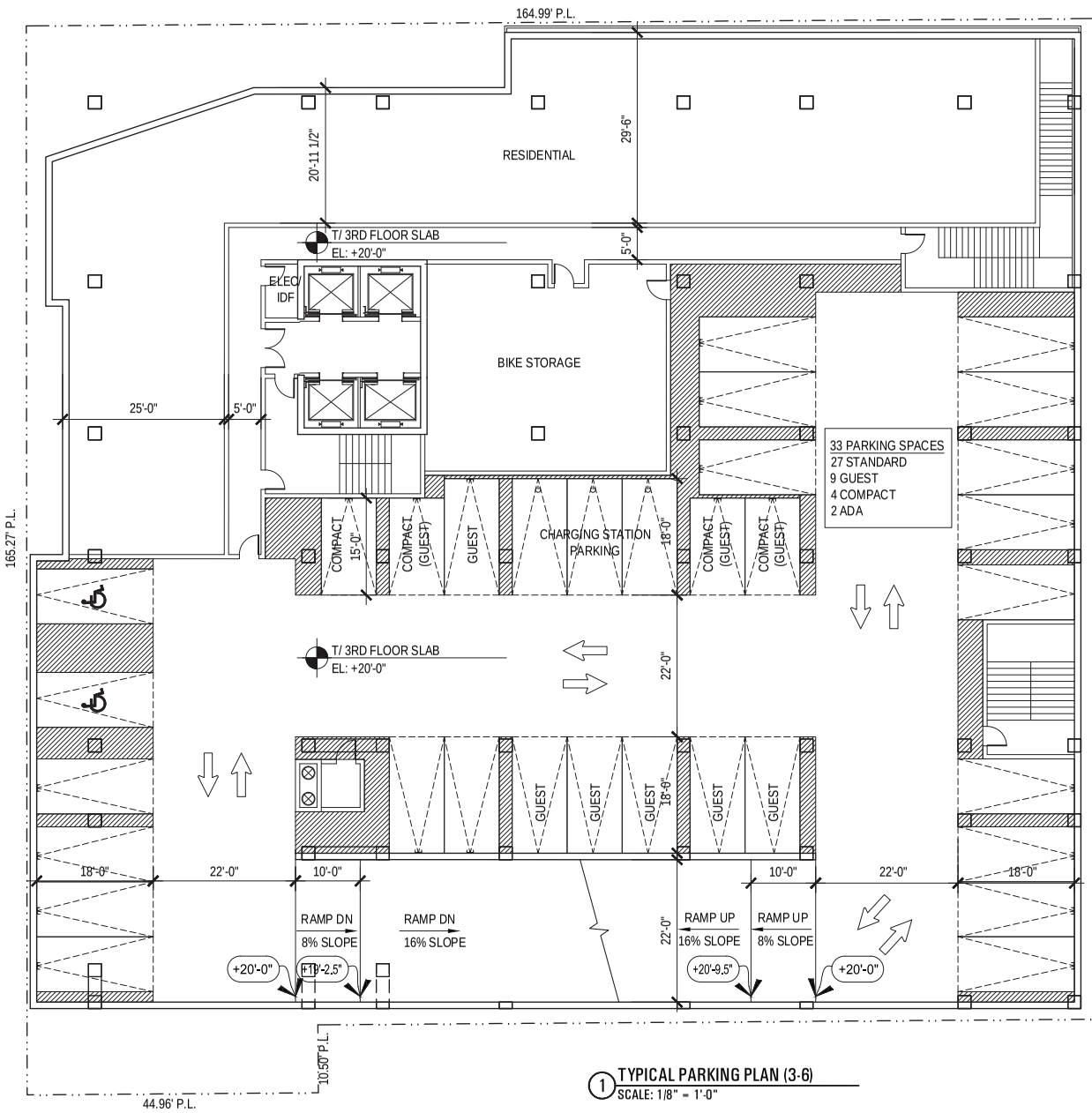

1 TYPICAL PARKING PLAN (3-6)
SCALE: 1/8" = 1'-0"

PROGRESS SET
02.23.16
NOT FOR
CONSTRUCTION

PLAN MATERIAL KEY

CIP CONCRETE WALL
CMU BLOCK WALL
MASONRY WALL
PRECAST PANEL
NEW METAL STUD & GYPSUM BOARD WALL

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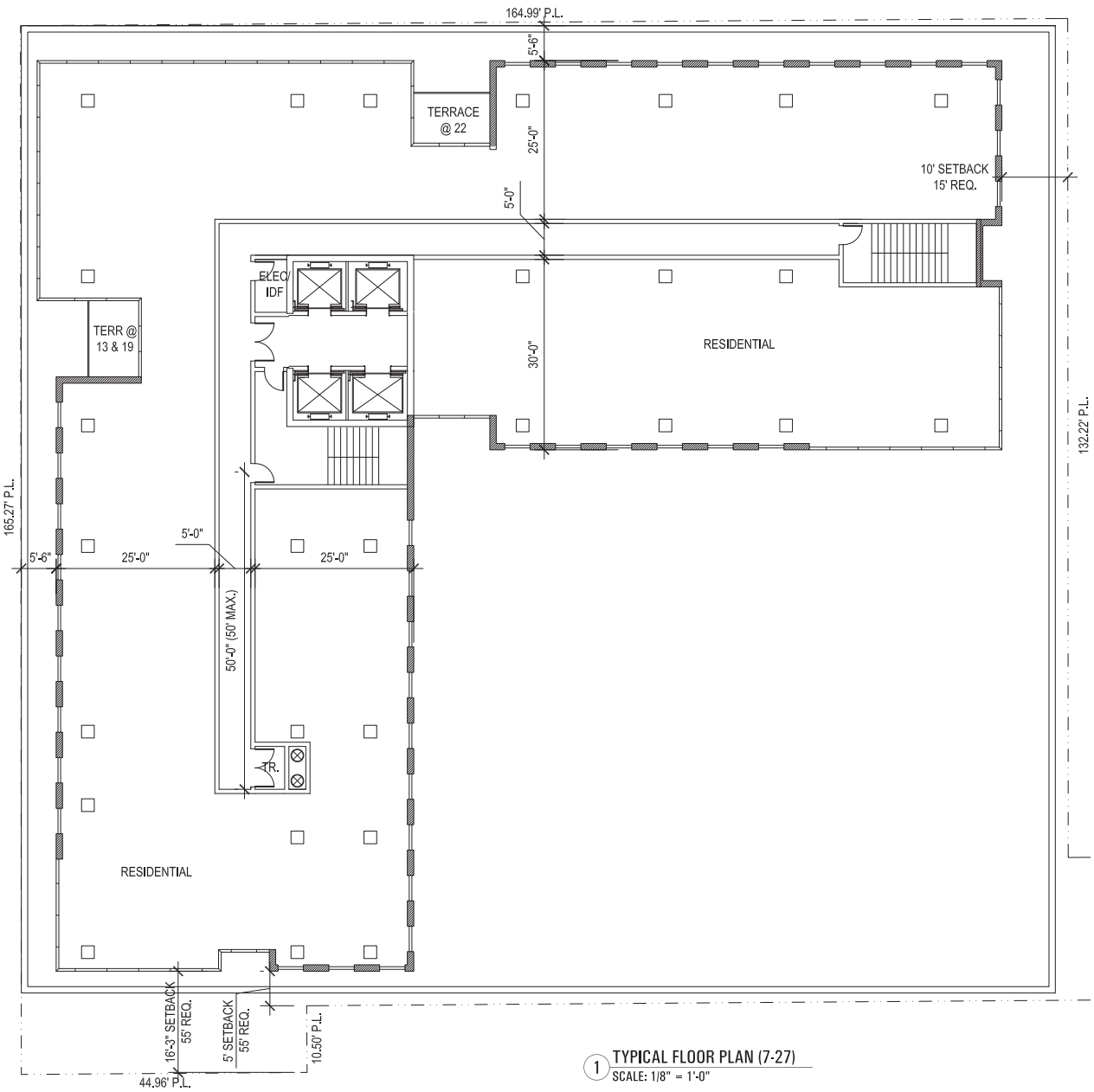
CHICAGO, IL 60607
312.226.1378
HPARCHITECTURE.COM

PROJ. # 1601	SCALE: AS NOTED
CK. BY: TPMZ	DN. BY: JADB

TYPICAL PARKING
PLAN (FLOORS 3-6)

A1.3



1 TYPICAL FLOOR PLAN (7-27)
SCALE: 1/8" = 1'-0"

PROGRESS SET
02.23.16
NOT FOR
CONSTRUCTION

PLAN MATERIAL KEY

- CIP CONCRETE WALL
- CMU BLOCK WALL
- MASONRY WALL
- PRECAST PANEL
- NEW METAL STUD & GYPSUM BOARD WALL

PLAN NOTES

- WALL TAGS AS SHOWN PER PLAN ARE REFERENCED IN WALL TYPE SCHEDULE. SEE WALL TYPE SCHEDULE FOR FIRE RATINGS, UL LISTINGS AND ASSEMBLIES.
- SEE DOOR SCHEDULE FOR DOOR FIRE RATINGS AND SIZES.
- SEE WINDOW SCHEDULE FOR WINDOW ASSEMBLIES.

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600 Washington
Avenue SE

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Minneapolis, MN

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HARTSHORNE PLUNKARD ARCHITECTURE
HPA
232 NORTH CARPENTER STREET
CHICAGO, IL 60607
312.226.4488
HPARCHITECTURE.COM

PROJ. #	1601	SCALE:	AS NOTED
CK. BY:	TPIMZ	DN. BY:	JA/DB

TYPICAL FLOOR PLAN
7-27

Refer to

A1.4

Appendix D

Building Metrics Tables

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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ZONING DATA - EAW

All zoning should be reviewed by Owner's Counsel

project	600 SE Washington - Minneapolis
issued date	02.23.16
description	New Construction - Mixed-Use Residential

Site Building Data	Existing	Proposed	Comments
Existing Zone	C1, C2, R6	C3A	
Use	Retail	Residential, Retail	
Site Area	30,252	30,252	
MLA per Dwelling Unit	NA	NA	
Dwelling Units (per MLA)	0	0	
Maximum F.A.R.	2.70	11.29	30% bonus for enclosed parking, 30% bonus mixed-use
Area (F.A.R.)	81,680	341,543	Retail = 12,500 sf
Area (Gross)	NA	437,826	
Building Height	20'	275'	Height to top of structure. Excludes mechanical equipment.
Number of stories	2	27	
Total Parking Spaces	NA	196	151 residential, 45 min. in basement. 225 residential bike parking spaces required (at least 203 long term), 3 retail bike parking spaces (at least 2 short-term) required. Proposed 333 interior bike spaces and 16 exterior bike spaces in ROW.
Handicapped Spaces	4	4	
Loading Spaces	2	2	10'x25'
Special Districts	PO Overlay, University Area Overlay, Mississippi River Critical Area Overlay		
Unit/Bed Count	450 units, 644 bedrooms		

* Note:
Proposed area calculations are approximate and subject to change upon design finalization.

Appendix E

County Well Index Well Logs

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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Minnesota Unique Well Number

675966

County Hennepin
Quad St Paul
Quad ID 103B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 06/19/2002
Update Date
Received Date 12/11/2007

Well Name	Township	Range	Dir	Section	Subsection
MERCIL	29	24	W	25	AADCCC

Elevation 835 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 630 WASHINGTON AV SE MINNEAPOLIS MN 55414

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CONCRETE OVER	0	2	BRN/BLK	MEDIUM
ROCK, LIMESTONE,	2	4	BROWN	HARD
FINE SAND	4	6	BROWN	SOFT
M-C SAND	6	10	BROWN	MEDIUM
COARSE SAND	10	12	BROWN	MEDIUM
MEDIUM SAND	12	24	BROWN	MEDIUM

Remarks

Well Depth 24 ft. **Depth Completed** 24 ft. **Date Well Completed** 04/17/2002

Drill Method Auger (non-specified) **Drill Fluid**

Use Monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight		Hole Diameter	
2 in. To	9 ft.	lbs./ft.		6.2 in. To	24 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	15 ft.	9 ft.	24 ft.

Static Water Level

19 ft. Land surface Measure 04/17/2002

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade

☒ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
High solids bentonite	3	Sacks	0 ft.	9 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat sand-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000)

System UTM - Mad83, Zone 15, Meters X 481930 Y 4980033

Unique Number Verification Site Plan Inpute Date 09/05/2007

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bergerson-Caswell	27058	HOLMEN, G.

Minnesota Unique Well Number

675967

County Hennepin
Quad St Paul
Quad ID 103B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 06/19/2002
Update Date
Received Date 12/11/2007

Well Name	Township	Range	Dir	Section	Subsection
MERCIL	29	24	W	25	ADBAAD

Elevation 834 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 630 WASHINGTON AV SE MINNEAPOLIS MN 55414

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
GRAVEL - FINE SAND	0	2	BROWN	MEDIUM
FINE SAND	2	6	BROWN	SOFT
M-C SAND	8	18	BROWN	SOFT
M-C SAND & ROCK	18	20	BROWN	MEDIUM
MOIST SILTY SAND	20	26	GRAY	MEDIUM

Remarks

Well Depth 26 ft. **Depth Completed** 26 ft. **Date Well Completed** 04/17/2002

Drill Method Auger (non-specified) **Drill Fluid**

Use Monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight		Hole Diameter	
2 in. To	11 ft.	lbs./ft.		6.2 in. To	26 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	15 ft.	11 ft.	26 ft.

Static Water Level

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
High solids bentonite	4	Sacks	0 ft.	11 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat sand+silt-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000)

System UTM - Mad83, Zone 15, Meters X 481911 Y 4980000

Unique Number Verification Site Plan Inpute Date 09/05/2007

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bergerson-Caswell	27058	HOLMEN, G.

Minnesota Unique Well Number

675968

County Hennepin
Quad St Paul
Quad ID 103B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 06/19/2002
Update Date
Received Date 12/11/2007

Well Name	Township	Range	Dir	Section	Subsection
MERCIL	29	24	W	25	ADABBA

Elevation 834 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 630 WASHINGTON AV SE MINNEAPOLIS MN 55414

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SILTY SAND	0	2	BLK/BRN	MEDIUM
FINE SAND	2	8	BROWN	SOFT
MEDIUM SAND	8	10	BROWN	MEDIUM
M-C SAND	10	12	BROWN	MEDIUM
MEDIUM SAND	12	14	BRN/TAN	MEDIUM
FINE SAND	14	16	BRN/TAN	SOFT
COARSE WET SAND	18	20	BRN/GRY	MEDIUM
C. SAND - SILTY WET	20	22	GRAY	MEDIUM
COARSE SAND	22	24	GRAY	MEDIUM

Remarks

Well Depth 24 ft. **Depth Completed** 24 ft. **Date Well Completed** 04/17/2002

Drill Method Auger (non-specified) **Drill Fluid**

Use Monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight		Hole Diameter	
2 in. To	9 ft.	lbs./ft.		6.2 in. To	24 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	15 ft.	9 ft.	24 ft.

Static Water Level

19 ft. Land surface Measure 04/17/2002

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☒ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
High solids bentonite	3	Sacks	0 ft.	9 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat sand-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000)

System UTM - Mad83, Zone 15, Meters X 481952 Y 4980008

Unique Number Verification Tag on well Inpute Date 09/05/2007

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bergerson-Caswell	27058	HOLMEN, G.

Minnesota Unique Well Number

200390

County Hennepin
Quad St Paul
Quad ID 103B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date
Received Date 12/04/2015

Well Name	Township	Range	Dir	Section	Subsection
UNIVERSITY OF	29	24	W	25	AACCCC

Elevation 835 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W SE MINNEAPOLIS MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
LOAM	0	2		
CLAY	2	7		
SAND FINE	7	17		
CONGLOMERATE	17	25		
CLAY	25	35		
LIMESTONE	35	66		
SOAPSTONE	66	69		
SANDROCK	69	72		

Remarks

SEWER HOLE

Well Depth 72 ft. **Depth Completed** 72 ft. **Date Well Completed** 06/08/1942

Drill Method **Drill Fluid**

Use Other (specify in remarks) **Status** Active

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type **Joint**

Drive Shoe? **Yes** ☐ **No** ☐ **Above/Below**

Open Hole From ft. To ft.

Screen? ☐ **Type** **Make**

Static Water Level

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Platteville Formation Aquifer

Last Strat St.Peter Sandstone Depth to Bedrock 35 ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - Mad83, Zone 15, Meters X 481713 Y 4980025

Unique Number Verification Inpute Date 01/01/1990

Angled Drill Hole

Well Contractor

Keys Well Co. 62012

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

200819

County Hennepin
Quad St Paul
Quad ID 103B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date
Received Date 12/18/2015

Well Name	Township	Range	Dir	Section	Subsection
CAMPUS	29	23	W	30	BCBBBC

Elevation 825 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W MINNEAPOLIS MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
GRAVEL	0	40		
LIME	40	70		
SHALE	70	80		
SANDSTONE	80	230		
DOLOMITE	230	355		
SANDSTONE	355	383		

Remarks

Well Depth 383 ft. **Depth Completed** 383 ft. **Date Well Completed** 04/00/1936

Drill Method **Drill Fluid**

Use Commercial **Status** Active

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? **Yes** ☐ **No** ☐ **Above/Below**

Casing Diameter		Weight
8 in. To 245 ft.		lbs./ft.

Open Hole From 245 ft. To 380 ft.

Screen? ☐ **Type** **Make**

Static Water Level

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump [X] Not Installed Date Installed
Manufacturer's name
Model Number HP 0 Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Platteville Formation Aquifer Prairie Du Chien-
Last Strat Jordan Sandstone Depth to Bedrock 40 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - Mad83, Zone 15, Meters X 482126 Y 4979993
Unique Number Verification Inpute Date 01/01/1990

Angled Drill Hole

Well Contractor
Layne Well Co. 27010
Licensee Business Lic. or Reg. No. Name of Driller

Appendix F

Utility Connection Plans

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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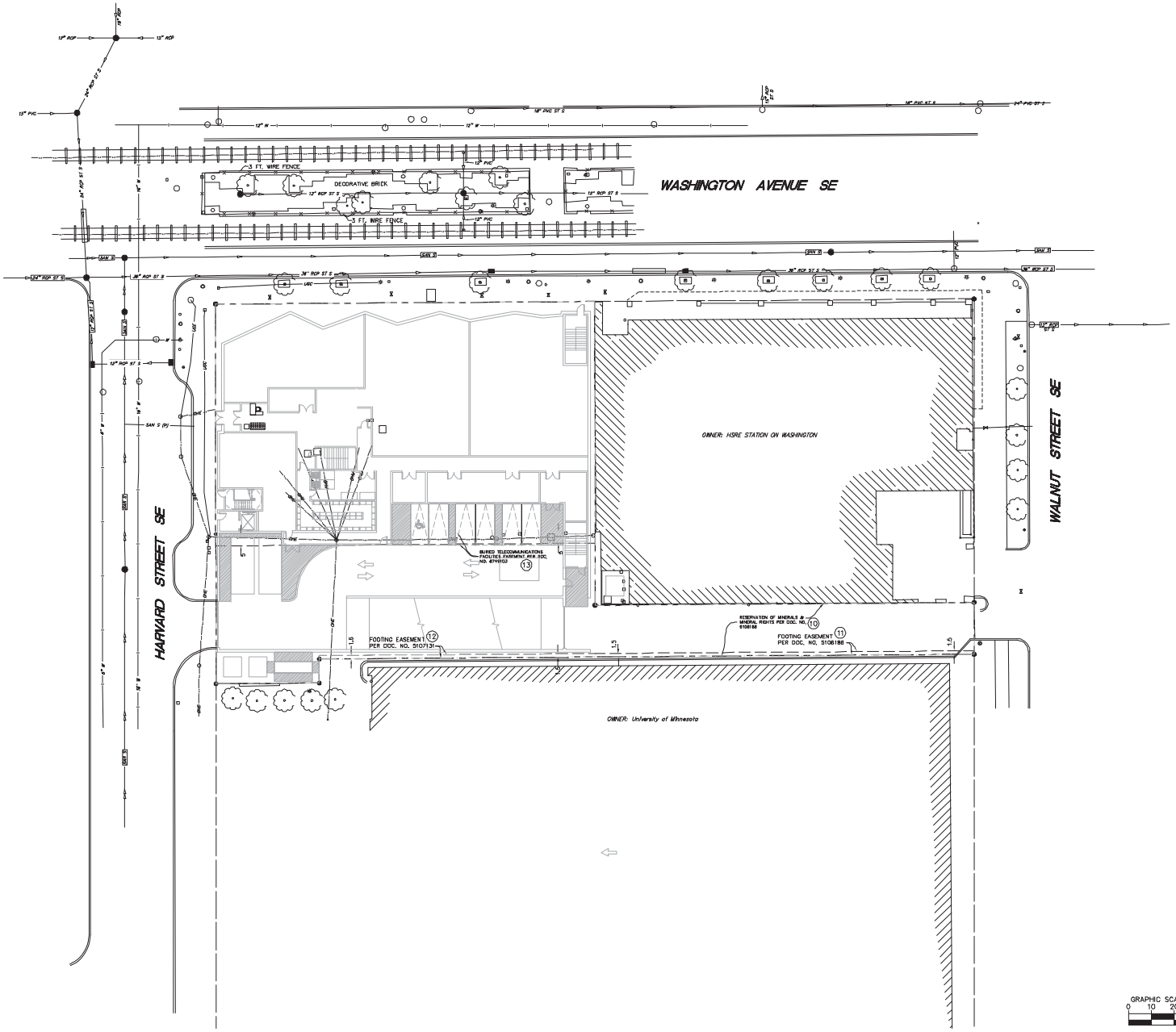

AREA FOR CITY APPROVAL STAMP

PRELIMINARY - NOT FOR CONSTRUCTION

600 SE Washington

600 SE Washington
Minneapolis, MN

	DATE	ISSUED FOR
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WWW.KIMLEY-HORN.COM

PROJ. # XXXX	SCALE: AS NOTED
CK. BY: M.BRANDT	DN. BY: J.LIBBY

UTILITY EXHIBIT

Preliminary

EX-C

K:\TMC_LDEV\Hartshorne Plunkard Architecture\600 Washington Avenue SE\CAD\Plan Sheets\Exhibits\EXC_Utility Exhibit.dwg February 10, 2016 – 1:05pm
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Appendix G

Braun Intertec Phase I ESA Report

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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BRAUN INTERTEC
The Science You Build On.

Braun Intertec Corporation
11001 Hampshire Avenue S
Minneapolis, MN 55438

Phone: 952.995.2000
Fax: 952.995.2020
Web: braunintertec.com

January 6, 2016

Project B1511804 ***(Revised)***

Mr. Thomas F. Lund
Stadium Village Partners, LLC
P.O. Box 508
Richmond, IL 60071

Re: Phase I Environmental Site Assessment
Proposed 26-Story Tower
600 and 612 Washington Avenue Southeast and 311 Harvard Street Southeast
Minneapolis, Minnesota

Dear Mr. Lund:

In accordance with your written authorization, Braun Intertec Corporation conducted a Phase I Environmental Site Assessment (ESA) of the above-referenced site (Site). The objective of the Phase I ESA was to evaluate the Site for indications of recognized environmental conditions and to assist in satisfying All Appropriate Inquiries (AAI) standards and practices. The Phase I ESA was conducted in general conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E1527-13 and 40 CFR Part 312.

The Phase I ESA was prepared on behalf of, and for use by Stadium Village Partners, LLC. No other party has a right to rely on the contents of the Phase I ESA without written authorization by Braun Intertec. The Phase I ESA was prepared in association with the purchase and redevelopment of the Site. Please refer to the attached report for the scope, methods and conclusions of our assessment.

We appreciate the opportunity to provide our professional services for you for this project. If you have any questions regarding this letter or the attached report, please contact Kevin Hoffman at 952.995.2458 or Steve Jansen at 952.697.0570.

Sincerely,

BRAUN INTERTEC CORPORATION

Kevin J. Hoffman
Project Scientist

Stephen T. Jansen, MS, PG
Principal Scientist

Attachment:
Phase I Environmental Site Assessment Report
AA/EOE

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Executive Summary

Braun Intertec Corporation conducted a Phase I Environmental Site Assessment (ESA) for the proposed 26-Story Tower located at 600 Washington Avenue Southeast (600 Parcel), 612 Washington Avenue Southeast (612 Parcel) and 311 Harvard Street Southeast (311 Parcel) in Minneapolis, Minnesota (Site) in general conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E1527-13 and 40 CFR Part 312.

According to building permits, the building on the 600 Parcel was constructed as a hotel prior to 1894. Permits was issued in 1904 for the construction of a two-story building on the 600 Parcel with stores at street-level and five apartments on the second floor of the building. The 600 Parcel also had a small building in 1912 identified on the fire insurance map as a "gasoline house". A residence was constructed on the southwestern corner of the 311 Parcel in 1907. Portions of two other residences were constructed on the eastern portion of the 311 Parcel prior to 1912. The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988. A commercial building was constructed on the 612 Parcel in 1923. A garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. Various commercial businesses have occupied the buildings on the 600 and 612 Parcels. None of the commercial businesses identified at the Site were of environmental concern with the exception of the garage and drycleaner at the 612 Parcel. A gasoline station was listed at 630 Washington Avenue Southeast (adjoining property east of the Site) in the 1930 to 2007 city directories.

At the time of the reconnaissance, the Site consisted of three parcels totaling approximately 0.70 acres. The Site was developed with two adjoining commercial buildings on the northern portion of the Site (one on the 600 Parcel and one on the 612 Parcel) and paved parking areas on the southern portion of the Site (311 Parcel). Five apartments were located on the second level of the building on the 600 Parcel.

This assessment identified no recognized environmental conditions in connection with the Site, with the exception of the following:

- A "gasoline house" was located on the 600 Parcel in 1912, and a garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. Although this Phase I ESA revealed no releases at the Site, based on the storage and use of hazardous substances and petroleum products for business activities associated with the former gasoline house, garage and drycleaner, there is a potential for unknown releases or numerous *de minimis* releases over time to impact soil, groundwater

and/or soil vapor at the Site. Thus, the potential for contamination at the Site related to the former gasoline house, garage and drycleaner is considered a recognized environmental condition.

- The Site is located in an area where numerous properties are listed in the regulatory report with reported releases of hazardous substances and/or petroleum products, including the gas station located at 630 Washington Avenue Southeast (adjoining property east of the Site) from at least 1930 until the late-2000s, where a release was reported to the MPCA on August 6, 2001 and assigned Leak #14406. Groundwater contamination was associated with the release. The MPCA closed Leak #14406 on September 25, 2007. Considering the proximity of Leak #14406 and the reported releases at properties in the area surrounding the Site, it is our opinion the potential exists for soil, groundwater, and/or soil vapor contamination to be present at the Site from offsite sources. The potential for contamination at the Site from offsite sources is considered a recognized environmental condition.

This assessment identified no controlled recognized environmental conditions in connection with the Site.

Additional Considerations

An additional consideration is a condition that does not meet the definition of a recognized environmental condition, controlled recognized environmental condition, or historical recognized environmental condition but, in our opinion, should be brought to the attention of the User.
The following additional consideration was identified during the Phase I ESA:

The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988. It is unknown if the demolition debris associated with the buildings was buried on the Site or hauled away for disposal. Based on our experience in historic urban areas, the potential exists that buried materials are present at the Site that require management as solid or hazardous waste. If fill soils are encountered during redevelopment, which could include demolition debris, urban fill consisting of ash or clinker material, and other wastes, additional evaluation of the fill soils might be required for management and disposal purposes.

Considering the Site buildings are intended to be demolished associated with the proposed redevelopment of the Site, we recommend that a Hazardous Building Materials Survey be completed on the current buildings at the Site prior to demolition. Identified hazardous materials documented by the survey should be removed and disposed in accordance with applicable local, state and federal regulations prior to demolition.

A. Introduction

A.1. Purpose

Braun Intertec Corporation received authorization from Mr. Thomas Lund of Stadium Village Partners, LLC (Client) to conduct a Phase I Environmental Site Assessment (ESA) of the proposed 26-Story Tower located at 600 Washington Avenue Southeast (600 Parcel), 612 Washington Avenue Southeast (612 Parcel) and 311 Harvard Street Southeast (311 Parcel) in Minneapolis, Minnesota (Site).
The objective of the Phase I ESA was to evaluate the Site for indications of recognized environmental conditions and to assist in satisfying All Appropriate Inquiries (AAI) standards and practices. The Phase I ESA was conducted in general conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E1527-13 and 40 CFR Part 312. No intentional deviations from the ASTM Practice E1527-13 were made in conducting this Phase I ESA for the Site. The Phase I ESA was prepared on behalf of, and for the use by Stadium Village Partners, LLC (User) in accordance with the contract between Stadium Village Partners, LLC and Braun Intertec, including the Braun Intertec General Conditions. No other party has a right to rely on the contents of the Phase I ESA without written authorization by Braun Intertec. All authorized parties are entitled to rely on the attached report according to our contract with Client, and under the same terms, conditions and circumstances. Please note that our contract with Client may contain a limitation of our total liability. If so, such limitation also applies to all those receiving this permission.

According to the User, the Phase I ESA was conducted in association with the purchase and redevelopment of the Site.

The purpose of this Phase I ESA was to evaluate the Site for indications of “recognized environmental conditions.” A recognized environmental condition is defined by ASTM Practice E1527-13 as: “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment, 2) under conditions indicative of a release to the environment: or 3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.”

In addition, a “controlled recognized environmental condition” is also a recognized environmental condition. A controlled recognized environmental condition is defined by ASTM Practice E1527-13 as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.”

A.2. Site Location

We accessed various documents and online sources to obtain Site location information. The following is a summary our findings:

Addresses:	600 Washington Avenue Southeast	612 Washington Avenue Southeast	311 Harvard Street Southeast
City:	Minneapolis	Minneapolis	Minneapolis
County:	Hennepin	Hennepin	Hennepin
Property Identification Number:	25-029-24-14-0021	25-029-24-11-0008	25-029-24-14-0058
Construction Year:	1905	1923	Not provided
Parcel Size:	0.27 acres	0.11 acres	0.32 acres
Owner:	600 Washington Partnership	600 Washington Partnership	Grace Evangelical Lutheran Church
Latitude:	44.973 North		
Longitude:	93.229 West		
Section, Township, Range:	SE 1/4 of the NE 1/4 of Section 25, Township 29 North, Range 24 West		
Size:	0.70 acres		

A Site location map and Site sketch are attached in Appendices A and B, respectively. Information obtained from the Hennepin County Property Information web page is attached in Appendix C.

A.3. Scope of Services

Services provided for this project included:

- Preparing a description of the Site location, current use and improvements, and surrounding area.
- Preparing a general description of the topography, soils, geology, and groundwater flow direction at the Site.
- Reviewing reasonably ascertainable and practically reviewable regulatory information published by state and federal agencies, health, and/or environmental agencies.
- Reviewing the history of the Site, including aerial photographs, fire insurance maps, directories, and other readily available Site development data.

- Conducting a reconnaissance and environmental review of the Site, including observations of the Site for indications of hazardous materials, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal, pits and sumps, and utilities.

- Conducting an area reconnaissance, including a brief review of adjoining property uses and pertinent environmental information noted in the Site vicinity.

- Interviewing current owners and/or occupants of the Site and accessible past Site owners, operators and/or occupants.

- Interviewing local government officials or agencies having jurisdiction over hazardous waste disposal or other environmental matters in the area of the Site.

- Reviewing previous environmental reports prepared for the Site, if provided.

- Preparing a written report of our methods, results, and conclusions.

The Standard Scope of the ASTM Practice E1527-13 is not intended to provide a universal analysis of potential environmental risks and hazards. This assessment included no analysis of non-standard scope environmental risks and hazards unless otherwise listed above. Analysis of other non-standard scope issues by Braun Intertec would require additional contractual arrangements.

This assessment does not include vapor encroachment screening as defined in ASTM Practice E2600-10, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*. ASTM Practice E2600-10 is not a requirement or component of "all appropriate inquiry," but a tool for evaluating vapor migration. Its results are not determinative of whether hazardous substances from a release are or may be present at the property for the sake of "all appropriate inquiry" or ASTM Practice E1527-13. An ASTM Practice E2600-10 vapor encroachment screen is not within the scope of this Phase I ESA and will not be conducted unless specifically requested by the User. However, vapors present or likely present from hazardous substances or petroleum products are considered no differently than hazardous substances or petroleum products present or likely present as a result of a release to the environment. Therefore, while a vapor encroachment screening per the ASTM Practice E2600-10 standard is not part of this assessment, the potential for impacts to the property from vapor migration that is a result of a release of hazardous substances and/or petroleum products to the environment will be considered when assessing for the presence of a recognized environmental condition as defined by ASTM E1527-13.

A.4. User-Provided Information

The purpose of this section is to describe tasks to be performed by the "User." The "User" as defined by ASTM Practice E1527-13, is "the party seeking to use ASTM Practice E1527-13 to complete an environmental site assessment of the property. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager."

As stated in 40 CFR 312 (the rule), the Brownfields Amendments provide important liability protections for Users who qualify as contiguous property owners, bona fide prospective purchasers, or innocent landowners. To meet the statutory requirements for any of these Landowner Liability Protections (LLPs), a User must meet certain threshold requirements and satisfy certain continuing obligations. To qualify as one of the three LLPs, the User must perform "all appropriate inquiries" (AAI) on or before the date on which the User acquired the Site. The rule defines AAI, which includes inquiries and activities performed by the User and an environmental professional (EP).

The rule allows (but does not mandate) the User performing AAI to conduct inquiries or activities that may include searches for environmental liens, assessments of any specialized knowledge on the part of the User, an assessment of commonly known or reasonably ascertainable information about the Site, and an assessment of the relationship of the purchase price to fair market value. However, if the User performing AAI conducts one or more of these inquiries and/or activities, the rule allows (but does not mandate) that the User may communicate information gathered from these inquiries and/or activities to their EP to identify a possible recognized environmental condition.

Braun Intertec provided a User Questionnaire to the Client as a means to communicate information gathered from these inquiries and/or activities to the EP. The User may elect whether to communicate this information to the EP and/or to communicate this information to the EP by other means (e.g., through conversation or submission of documents). As indicated in our contract, if multiple Users are requesting reliance on the Phase I ESA, the Client was responsible for forwarding a copy of the questionnaire to all appropriate entities (collectively the User).

User-supplied information is discussed in applicable sections of this report. Sections A.4.a through A.4.f present any information communicated to us by the User that the EP has determined to indicate the possible presence or likely presence of a recognized environmental condition.

A.4.a. Environmental Liens

An environmental lien is a charge, security, or encumbrance, upon title to the Site to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of environmental issues at the Site.

The User was not aware of a record or awareness of environmental liens recorded against the Site.

A.4.b. Activity and Use Limitations

Activity and Use Limitations (AULs) are legal or physical restrictions or limitations on the use of, or access to, a Site to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil, soil vapor, groundwater, and/or surface water on the Site or to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. AULs, which may include institutional and/or engineering controls, are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil, groundwater, and/or surface water on the Site.

The User was not aware of a record or awareness of AULs recorded against the Site.

A.4.c. Specialized Environmental Knowledge

Specialized environmental knowledge includes any information and/or experience related to the Site or adjoining properties including, but not limited to, any obvious indicators that point to the presence or likely presence of environmental issues at the Site.

The User was not aware of specialized environmental knowledge for the Site.

A.4.d. Valuation Reduction for Environmental Issues

Valuation reduction for environmental issues includes the relationship of the purchase price to the fair market value of the property.

The User was not aware of information indicating any reduction in purchase price or fair market value of the Site due to environmental issues.

A.4.e. Commonly Known or Reasonably Ascertainable Information

Commonly known or reasonable ascertainable information includes information about the Site that generally is known to the public within the community where the Site is located and can be easily sought and found from individuals familiar with the Site or from easily attainable public sources of information.

The User stated the Site is used for commercial and residential purposes. The User was not aware of additional commonly known or reasonably ascertainable information for the Site.

A.4.f. Degree of Obviousness

The User must consider the degree of obviousness of the presence or likely presence of releases or threatened releases at the Site and the ability to detect releases or threatened releases by appropriate investigation.

The User was not aware of any obvious indications of the presence or likely presence of releases or threatened releases at the Site.

B. Records Review

The purpose of the records review is to obtain and review records that will help identify recognized environmental conditions in connection with the Site. We consulted only those regulatory and historical sources that were readily available, practically reviewable, and likely to be useful to develop a history of previous uses of the Site and surrounding area within the time and cost constraints of this Phase I ESA.

B.1. Physical Setting Information

B.1.a. Topography

According to the United States Geological Survey (USGS) 7.5-minute topographic map series, St. Paul West, Minnesota quadrangle, the Site is located at an elevation of approximately 840 feet above mean sea level.

B.1.b. Geology

The unconsolidated sediment in the Site vicinity are Pleistocene age middle-terrace deposits, which consist of sand, gravelly sand, and loamy sand with thin deposits of silt, loam, or organic sediment on top (Meyer and Hobbs, 1989).

The uppermost bedrock unit in the Site vicinity is the Middle Ordovician, Platteville and Glenwood Formation (Olsen and Bloomgren, 1989). The Platteville Formation is described as fine-grained limestone containing thin shale partings near the top and base, underlain by green, sandy shale of the Glenwood Formation, which is very thin. The depth to bedrock in the Site vicinity is less than 50 feet below land surface (Bloomgren et al., 1989).

B.1.c. Hydrogeology

The depth to groundwater in the vicinity of the Site is estimated to be approximately 30 to 40 feet below ground surface. According to published geologic information, the regional groundwater flow direction within the unconsolidated deposits in the Site vicinity is generally southwest (Kanivetsky, 1989). However, the local direction of groundwater flow may be affected by nearby streams, lakes, wells, and/or wetlands and may vary seasonally.

The Site-specific groundwater flow direction was not determined through direct measurement during this Phase I ESA. Additional field investigation, beyond the Scope of Services of this Phase I ESA, would be required to determine this information.

B.2. Regulatory Report

We obtained regulatory database information pertaining to the Site and surrounding area from Environmental Data Resources, Inc. (EDR). The EDR report is a compilation of records of facilities that are included on current federal and state environmental regulatory databases. The databases were searched based on the specified minimum search distances from the Site as established by ASTM Practice E1527-13.

The EDR report also includes a description, source reference, date of acquisition, and the specified approximate minimum search distance criteria for each database and list. A copy of the EDR report is attached in Appendix D.

We reviewed the EDR report to identify records that indicate known or potential recognized environmental conditions on the Site and/or surrounding area and to evaluate the likelihood for those recognized environmental conditions to impact the Site based on the information obtained in this Phase I ESA.

B.2.a. Site

The Site is listed on the following federal and/or state databases in the EDR report:

- Kinko's of Minnesota/Frank D. Stone, 612 Washington Avenue Southeast. The EDR report indicates the Site is listed on the Minnesota Pollution Control Agency (MPCA) What's In My Neighborhood (WIMN) and EDR's Historical Auto Station databases. According to the EDR report, the MPCA WIMN listing indicates Kinko's of Minnesota is an inactive hazardous waste generator and no longer generates hazardous waste. Identification on the MPCA WIMN database as an inactive hazardous waste generator indicates the Site was required to register

their hazardous waste activity with the MPCA and does not imply that a release of hazardous waste has occurred at the Site. According to the EDR report, an automobile garage was located at the Site in 1930 and 1935.

- Stadium Cleaners/Morgan Backstrom, 614 Washington Avenue Southeast. The EDR report indicates the Site is listed on EDR's Historical Cleaner database. According to the EDR report, a cleaners is listed at the Site in 1940, 1946, 1950, 1970, 1975, and 1979.

B.2.b. Adjoining Properties

The following facilities are identified on properties that adjoin the Site in the EDR report:

- Mercil Standard Service/Mercil Site/Mercil Brothers Phillips 66/Station on Washington, 616/630 Washington Avenue Southeast, located on an adjoining property east of the Site. The EDR report indicates the facility is listed on the Resource Conservation and Recovery Act (RCRA) Conditionally-Exempt Small Quantity Generator (CESQG), underground storage tank (UST), leaking underground storage tank (LUST), Brownfields, and EDR's Historical Auto Station databases. Identification of the facility on the RCRA-CESQG database indicates that the facility is required to register their hazardous waste activity under RCRA. According to the EDR report, five removed USTs are registered at the facility. A release at the facility was reported to the MPCA on August 6, 2001 and assigned Leak #14406. Groundwater contamination was associated with the release. According to the EDR report, two soil gas samples were collected for laboratory analysis that has low exceedances. The MPCA closed Leak #14406 on September 25, 2007. According to the EDR report, a gas station and auto repair facility is listed at being located at the property from 1940 to 2010.

- Patient Visitor Parking Ramp, 601 Delaware Street Southeast, located on an adjoining property southwest of the Site. The EDR report indicates the facility is listed on the aboveground storage tank (AST) and MPCA WIMN web page. According to the EDR report, one 500-gallon active diesel AST is registered at the facility. The listing on the MPCA WIMN database is due to the registered storage tank located at the facility.

- RBP Mpls, LLC DBA The Commons Hotel, 615 Washington Avenue Southeast, located on the adjoining property north of the Site. The EDR report indicates the facility is listed on the UST and MPCA WIMN databases. According to the EDR report, one removed 265-gallon diesel UST and one active 560-gallon diesel AST are registered at the facility. The listing on the MPCA WIMN database is due to the registered storage tanks located at the facility.

B.2.c. Surrounding Area

We reviewed the EDR report for facilities located beyond adjoining properties that may indicate a release or likely release of hazardous substances and/or petroleum products that may impact the Site. The Site is located in an area where numerous properties are listed in the regulatory report with reported releases of hazardous substances and/or petroleum products. Refer to Section G for our opinion regarding the facilities with reported releases of hazardous substances and/or petroleum products in the surrounding area and their potential to impact the Site.

B.2.d. Unmapped Sites

The EDR report identified "orphan" sites, which, because of poor or inadequate address information could not be mapped by EDR. Using online mapping resources, all "orphan" sites were identified outside the appropriate minimum search distances for the Site or could not be located based on the information provided. It is our opinion the "orphan" sites do not warrant further consideration as potential recognized environmental conditions.

B.3. Regulatory Agency File and Records Review

The purpose of the regulatory file review is to obtain sufficient information to assist in determining if a recognized environmental condition, historical recognized environmental condition, controlled recognized environmental condition, or a *de minimis* condition exists at the Site in connection with a regulatory report listing.

Based on our review of the regulatory report, it is our opinion that a regulatory agency file and records review is not warranted due to factors that include regulatory status, distance from the Site, and/or location relative to the regional groundwater flow direction, as referenced in Section B.1.

B.4. Additional Federal, State, and Local Environmental Records

To enhance and supplement the regulatory database report, we obtained or reviewed practically reviewable or reasonably ascertainable local city and/or county records and/or additional state records to identify records that indicate known or potential recognized environmental conditions at the Site.

B.4.a. City of Minneapolis

We retained Historical Information Gatherers, Inc. (HIG) to conduct a file review of the City of Minneapolis (City) files regarding land-use activities at the Site. A copy of the files received from HIG are attached in Appendix E.

According to the building permits, the building on the western portion of the Site (600 Parcel) was constructed as a hotel in 1894. A permit was issued in 1904 for the construction of five apartments on the second floor of the building on the 600 Parcel. Numerous electrical, building, and plumbing permits were issued for the building on the 600 Parcel including oil burner permits issued in 1948, 1949, 1950, and 1951. The permit issued for the oil burner in 1951 indicated one 265-gallon storage tank associated with the oil burner was located in the basement.

A commercial building was constructed on the 612 Parcel in 1923. A garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. A permit to for a motor associated with an oil burner was issued in October 1948. No details regarding the location, capacity, or status of the storage tank associated with the oil burner was provided in the documents reviewed.

A residence was constructed on the southwestern corner of the 311 Parcel in 1907. The property records indicate the parcel was a vacant lot in February 1982.

B.4.b. Well Databases

The Minnesota Geological Survey (MGS) maintains the Minnesota County Well Index (MCWI), which is a limited database of water well records. The MCWI was accessed through the Minnesota Department of Health (MDH) website. Not all private water wells are listed in that database.

Our review of the MCWI database revealed no documentation of water wells located on the Site.

B.4.c. State Regulatory Web Pages

We accessed Minnesota Department of Agriculture (MDA) "What's In My Neighborhood" Agricultural Interactive Mapping web page and the MPCA's "What’s In My Neighborhood" web page for information regarding the potential for the Site, adjoining properties, or surrounding properties to be of environmental concern that were not identified in the regulatory database report.

We did not identify facilities on the state regulatory web pages we accessed that were not already listed in the EDR report discussed in Section B.2 above.

B.5. Historical-Use Information

The objective of the historical-use information review was to develop a history of the previous uses of the Site and surrounding area, to help evaluate the likelihood of past uses having led to recognized environmental conditions in connection with the Site.

B.5.a. Historical Maps

We retained EDR to obtain fire insurance maps of the Site and surrounding area. EDR provided fire insurance maps for the years 1912, 1941, 1950, 1952, and 1966. Copies of the fire insurance maps are attached in Appendix F.

1912

The Site is developed with a building occupied by five commercial businesses, a residence, and a portion of an additional residence. A small building labeled as "GASOL HO" (gasoline house) is located on the west-central portion of the Site (on the 600 Parcel). The Site is bordered on the north and west consistent with the current alignments of Washington Avenue Southeast and Harvard Street Southeast, respectively. The adjoining properties are developed with houses or vacant land.

1941 - 1966

The Site appears similar to the 1912 historical map except an additional building occupied by two commercial tenants is located east of the previous mentioned building and the gasoline house has been removed. A gasoline station is apparent on the adjoining property east of the Site. The adjoining properties are developed with residential buildings.

B.5.b. Historical Topographic Maps

The USGS topographic map used for the figure in Appendix A is dated 1967 with revisions made in 1993.

The topographic map depicts a building at the Site that was constructed prior to 1967.

B.5.c. Aerial Photographs

We retained HIG to obtain aerial photographs of the Site and surrounding area. HIG provided aerial photographs for the years 1938, 1947, 1956, 1966, 1974, 1978, 1983, 1988, 1994, 1997, 2000, 2004, 2009, and 2012. Copies of the aerial photographs are attached in Appendix G.

1938 - 1974

The Site is developed with two buildings on the northern portion of the Site, a house in the southwest corner of the Site, and a portion of a house on the eastern portion of the Site. Adjoining properties consist of a mix of residential and commercial buildings.

1978 - 1983

The Site appears similar to the 1974 aerial photograph except the house in the southwest corner of the Site has been removed and replaced with a parking lot.

1988 - 2012

The Site appears similar to the 1983 aerial photograph except the portion of the house in the eastern portion of the Site has been removed and replaced with a paved driving area. A parking ramp is located on the adjoining property south of the Site. The residential buildings on the adjoining properties west of the Site have been removed and replaced with institutional buildings.

B.5.d. City Directory Information

We retained HIG to obtain city directory information pertaining to the Site and surrounding area. HIG provided city directories for Washington Avenue Southeast and Harvard Street Southeast at approximate five-year intervals from 1930 to 2012.

The addresses along Harvard Street Southeast (301 to 313) consisted of residential listings from 1930 to 1972. The addresses along Washington Avenue Southeast (600 to 614) consisted of various commercial businesses. None of the commercial businesses listed in the city directories were of environmental concern with the exception of the following:

1930 - 1977	Stadium Cleaners/Morgan Backstrom/Dinsmore Cleaners & Dyers (614 Washington Avenue Southeast)
1930 - 1935	Stadium Garage/Frank D. Stone (garage) (612 Washington Avenue Southeast)

A gasoline station is listed at 630 Washington Avenue Southeast (adjoining property east of the Site) in the 1930 to 2007 city directories.

C. Interviews

We contacted the following individual to obtain knowledge or historical and current land-use information regarding the Site:

Mr. James Anderson, Chief Operating Officer, Durand & Associates
(property manager representative)

Mr. Anderson stated Durand & Associates has managed the property for approximately 3-1/2 years. According to Mr. Anderson, the tenants have been consistent since they have managed the property. Mr. Anderson stated the Site buildings consist of seven tenant spaces at street level and five apartments located on the second level. Small basements are located beneath each of the tenant spaces. Access to the basement beneath the Federal Express tenant space is through a hatch located in the Village Wok

restaurant area. At the time of our reconnaissance, the table located on top of the hatch was occupied so we were unable to access the basement. According to Mr. Anderson, a water meter and gas meter are located in the basement beneath the Federal Express tenant space. Six of the seven tenant spaces were occupied. Mr. Anderson stated the vacant space was formerly occupied by Jamba Juice, which vacated the Site approximately 3 months ago. Additional information obtained from Mr. Anderson is included in Section D. Mr. Anderson stated that he was not aware of environmental concerns at the Site.

D. Site Reconnaissance

The objective of the Site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the Site.

A Braun Intertec environmental professional, Kevin Hoffman, conducted a Site reconnaissance on December 21, 2015. We were accompanied during the Site reconnaissance by the following individual:

Mr. James Anderson, Chief Operating Officer, Durand & Associates
(property manager representative)

At the time of the Site reconnaissance, the weather was cloudy and breezy with a temperature of about 30 degrees Fahrenheit.

D.1. Site Characteristics

At the time of the reconnaissance, the Site consisted of three parcels totaling approximately 0.70 acres. The Site topography was relatively flat. The Site was developed with two adjoining commercial buildings on the northern portion of the Site and paved parking areas located on the southern portion of the Site.

D.2. Adjoining Property Use and Characteristics

The Site was bordered on the north by Washington Avenue Southeast followed by Applebee's and a Starbucks coffee shop with The Commons Hotel located beyond; on the east by The Station on Washington (commercial and residential) with Walnut Street Southeast and residential and commercial properties located beyond; on the south by University Medical Center parking ramp and a residence with a dormitory located beyond; and on the west by Harvard Street Southeast followed by Weaver/Densford Hall. The Site was located in a commercial and residential area within the city of Minneapolis on the University of Minnesota campus.

No observations of environmental concern were noted on adjoining properties to the Site at the time of the reconnaissance.

D.3. Site Improvements and Layout

The Site was developed with two adjoining commercial buildings that totaled approximately 12,300-square-feet. Small basements were located beneath each of the tenant spaces. We were able to access all of the basements with the exception of the one beneath the Federal Express tenant space. According to Mr. Anderson, only a water and gas meter are located in the Federal Express basement. Apartments were located on the second level of the building on the 600 Parcel. The Site buildings were located on the northern portion of the Site along Washington Avenue Southeast. Paved parking areas were located on the south side of the Site buildings. The Site buildings were occupied by the following tenants:

600 - Espresso Expose
602 - Vacant (Jamba Juice)
604 - Bun Mi (restaurant)
606 - 608 - Big 10 (restaurant)
610 - Village Wok
612 - Federal Express
614 - Abdul's Afundy (restaurant)

Espresso Expose, vacant tenant space, and Bun Mi are heated by natural gas-fired forced air furnaces located in the basements. Big 10, Village Wok, Federal Express, and Abdul's Afundy are heated by natural gas-fired rooftop units. Access to the Site was provided by driveways from Harvard Street Southeast on the western boundary and Walnut Street Southeast on the eastern boundary. A Site Sketch and Site Photographs are attached in Appendices B and H, respectively.

D.4. Pits, Ponds, or Lagoons

No indications of pools of liquids, standing water, cisterns, cesspools, or other surface-water features were observed at the Site or on adjoining properties at the time of our reconnaissance.

D.5. Stained Soil, Pavement, or Corroded Surfaces

No stained or discolored soil or pavement was observed at the time of the Site reconnaissance, with the exception of small oil stains located within the parking areas. It is our opinion that this staining is considered a *de minimis* condition for the Site.

D.6. Solid Waste Disposal

No indications of waste disposal areas, observed fill or graded areas by non-natural causes, mounds, depressions, or burn pits were observed at the Site at the time of the reconnaissance.

Solid wastes generated at the Site are disposed in dumpsters and trash cans located on the south side of the commercial building and are serviced by Aspen Waste Systems.

D.7. Stressed Vegetation

No areas of vegetation were observed at the time of the Site reconnaissance.

D.8. Hazardous Substances

No indications of current and/or historic use, storage, staining, or spills of hazardous substances were observed at the Site at the time of the reconnaissance. Mr. Anderson was not aware of hazardous substances used or stored at the Site.

D.9. Petroleum Products

No indications of current and/or historic use, storage, staining, or spills of petroleum products were observed at the Site at the time of the reconnaissance. Mr. Anderson was not aware of petroleum products used or stored at the Site.

D.10. Storage Tanks

No indications of ASTs or USTs were noted at the Site at the time of the reconnaissance. Mr. Anderson was not aware of storage tanks currently or previously located at the Site.

D.11. Unidentified Drums and Containers

No drums containing unidentified substances suspected of being a hazardous substance or petroleum product were observed at the Site at the time of our reconnaissance.

D.12. Odors

No indications of strong, pungent, or noxious odors were observed at the time of the Site reconnaissance.

D.13. Potential PCB-Containing Electrical and Hydraulic Equipment

Nine pole-mounted electrical transformers were noted at the Site. Six of the transformers were observed on the central portion of the Site and three are located along the western boundary on Harvard Street Southeast. The transformers appeared to be in good condition with no indications of leaking or staining.

D.14. Wastewater Discharges

No indications of wastewater discharging into a drain, ditch, underground injection system, or stream on or adjacent to the Site were observed at the Site at the time of the reconnaissance.

D.15. Sewage Disposal System

According to Mr. Anderson, the Site is connected to municipal sewer services. Mr. Anderson was not aware of septic systems located at the Site.

D.16. Wells

No indications of wells such as monitoring wells, dry wells, irrigation wells, injection wells, abandoned wells, or other non-potable wells were observed at the Site at the time of the reconnaissance.
Mr. Anderson was not aware of wells located at the Site.

D.17. Potable Water Supply

According to Mr. Anderson, the Site is connected to municipal water services.

E. Summary of Land-Use Activities

E.1. Historical Site and Adjoining Property Land Use

According to building permits, the building on the 600 Parcel was constructed as a hotel prior to 1894. Permits was issued in 1904 for the construction of a two-story building on the 600 Parcel with stores at street-level and five apartments on the second floor of the building. The 600 Parcel also had a small building in 1912 identified on the fire insurance map as a "gasoline house". A residence was constructed on the southwestern corner of the 311 Parcel in 1907. Portions of two other residences were constructed on the eastern portion of the 311 Parcel prior to 1912. The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988. A commercial building was constructed on the 612 Parcel in 1923. A garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. Various commercial businesses have occupied the buildings on the 600 and 612 Parcels. None of the commercial businesses identified at the Site were of environmental concern with the exception of the garage and drycleaner at the 612 Parcel. A gasoline station was listed at 630 Washington Avenue Southeast (adjoining property east of the Site) in the 1930 to 2007 city directories.

E.2. Current Site and Adjoining Property Land Use

At the time of the reconnaissance, the Site consisted of three parcels totaling approximately 0.70 acres. The Site was developed with two adjoining commercial buildings on the northern portion of the Site (one on the 600 Parcel and one on the 612 Parcel) and paved parking areas on the southern portion of the Site (311 Parcel). Five apartments were located on the second level of the building on the 600 Parcel.

F. Limiting Conditions and Data Gaps

The findings and conclusions presented in this report are based on procedures described in ASTM Practice E1527-13, inquiries with public officials, available literature cited in this report, conditions noted at the time of our Phase I ESA, and our interpretation of the information obtained as part of this Phase I ESA. Our findings and conclusions are limited to the specific project and properties described in this report and by the accuracy and completeness of information provided by others.

An environmental site assessment cannot wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property within reasonable limits of time and cost.

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

No data gaps were identified during the Phase I ESA process, with the exception of the following:

- Historical resources were not readily available for 5-year-or-less intervals from the time of the first developed use. However, sufficient information was available to identify the Property uses back to 1894 when the 600 Parcel was developed with a hotel. Based on this information, Braun Intertec does not consider this data failure to be a data gap.

- We were unable to access the basement beneath the Federal Express tenant space at the time of our reconnaissance. Reportedly, only a water and gas meter are located in the Federal Express basement.

The identified data gaps did not affect the environmental professional's ability to render opinions regarding conditions indicative of a release or threatened release.

G. Findings

The findings include identified known or suspect recognized environmental conditions, controlled recognized environmental conditions, historical recognized conditions, *de minimis* conditions and additional issues in connection with the Site.

The following findings are based on the results of our assessment:

- According to building permits, the building on the 600 Parcel was constructed as a hotel prior to 1894. Permits was issued in 1904 for the construction of a two-story building on the 600 Parcel with stores at street-level and five apartments on the second floor of the building. A residence was constructed on the southwestern corner of the 311 Parcel and portions of two other residences were constructed on the eastern portion of the 311 Parcel prior to 1912. A commercial building was constructed on the 612 Parcel in 1923.

Various commercial businesses have occupied the buildings on the 600 and 612 Parcels. None of the commercial businesses identified at the Site were of environmental concern.

- Oil burner permits were issued for the building on the 600 Parcel in 1948, 1949, 1950, and 1951. The permit issued for the oil burner in 1951 indicated one 265-gallon storage tank associated with the oil burner was located in the basement. A permit for a motor associated with an oil burner was issued in October 1948 for the building on the 612 Parcel. No details regarding the location, capacity, or status of the storage tank associated with the oil burner on the 612 Parcel were available.

- Based on the 1912 fire insurance map, a small building identified as a "gasoline house" was located on the 600 Parcel. A garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively.

- The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988.

- The Site is located in an area where numerous properties are listed in the regulatory report with reported releases of hazardous substances and/or petroleum products, including the gas station located at 630 Washington Avenue Southeast (adjoining property east of the Site) from at least 1930 until the late-2000s.

H. Opinions

According to the User, the Phase I ESA was conducted in association with the purchase and redevelopment of the Site. Opinions expressed herein are influenced by the stated reason for conducting the Phase I ESA. Furthermore, the expressed opinions might not be applicable to alternate reasons for reliance on the content of the Phase I ESA.

H.1. Recognized Environmental Conditions

A recognized environmental condition is defined by ASTM Practice E1527-13 as: "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment, 2) under conditions indicative of a release to the environment: or 3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions."

This assessment identified no recognized environmental conditions in connection with the Site, with the exception of the following:

- A "gasoline house" was located on the 600 Parcel in 1912. A garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. Although this Phase I ESA revealed no releases at the Site, based on the storage and use of hazardous substances and petroleum products for business activities associated with the former gasoline house, garage and drycleaner, there is a potential for unknown releases or numerous *de minimis* releases over time to impact soil, groundwater and/or soil vapor at the Site. Thus, the potential for contamination at the Site related to the former gasoline house, garage and drycleaner is considered a recognized environmental condition.

- The Site is located in an area where numerous properties are listed in the regulatory report with reported releases of hazardous substances and/or petroleum products, including the gas station located at 630 Washington Avenue Southeast (adjoining property east of the Site) from at least 1930 until the late-2000s, where a release was reported to the MPCA on August 6, 2001 and assigned Leak #14406. Groundwater contamination was associated with the release. The MPCA closed Leak #14406 on September 25, 2007. Considering the proximity of Leak #14406 and the reported releases at properties in the area surrounding the Site, it is our opinion the potential exists for soil, groundwater, and/or soil vapor contamination to be present at the Site from offsite sources. The potential for contamination to be present at the Site from offsite sources is considered a recognized environmental condition.

H.2. Controlled Recognized Environmental Conditions

A controlled recognized environmental condition is defined by ASTM Practice E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls."

This assessment identified no controlled recognized environmental conditions in connection with the Site.

H.3. Historical Recognized Environmental Conditions

A historical recognized environmental condition is defined by ASTM Practice E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the Site and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the Site to any required controls."

This assessment identified no historical recognized environmental conditions in connection with the Site.

H.4. *De Minimis* Conditions

A *de minimis* condition is defined by ASTM Practice E1527-13 as "a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

The following findings are considered *de minimis* conditions:

- According to building permits, the building on the 600 Parcel was constructed as a hotel prior to 1894. Permits was issued in 1904 for the construction of a two-story building on the 600 Parcel with stores at street-level and five apartments on the second floor of the building. A residence was constructed on the southwestern corner of the 311 Parcel and portions of two other residences were constructed on the eastern portion of the 311 Parcel prior to 1912. A commercial building was constructed on the 612 Parcel between 1912 and 1930. Various commercial businesses have occupied the buildings on the 600 and 612 Parcels. None of the commercial businesses identified at the Site were of environmental concern. It is our opinion the various commercial businesses located at the Site with the exception of the garage, dry cleaner, and "gasoline house" are considered *de minimis* conditions.

- Oil burner permits were issued for the building on the 600 Parcel in 1948, 1949, 1950, and 1951. The permit issued for the oil burner in 1951 indicated one 265-gallon storage tank associated with the oil burner was located in the basement. A permit for a motor associated with an oil burner was issued in October 1948 for the building on the 612 Parcel. No details regarding the location, capacity, or status of the storage tank associated with the oil burner on the 612 Parcel were available. Considering the oil burner permit issued for the 600 Parcel indicated that the storage tank associated with the oil burner was located in the basement of the building, it is reasonable to assume that the

storage tank associated with the oil burner at the 612 Parcel was also formerly located in the basement. At the time of our reconnaissance, no indications of a storage tank, staining, or petroleum odors were noted in the basement of the buildings. It is our opinion the former storage tanks associated with the oil burners at the Site were removed and are considered *de minimis* conditions.

H.5. Additional Considerations

An additional consideration is a condition that does not meet the definition of a recognized environmental condition, controlled recognized environmental condition, or historical recognized environmental condition but, in our opinion, should be brought to the attention of the User.
The following additional consideration was identified during the Phase I ESA.

The residence in the southwestern corner of the 311 Parcel was demolished between 1974 and 1978. The residences on the eastern portion of the 311 Parcel were demolished between 1983 and 1988. It is unknown if the demolition debris associated with the buildings was buried on the Site or hauled away for disposal. Based on our experience in historic urban areas, the potential exists that buried materials are present at the Site that require management as solid or hazardous waste. If fill soils are encountered during redevelopment, which could include demolition debris, urban fill consisting of ash or clinker material, and other wastes, additional evaluation of the fill soils might be required for management and disposal purposes.

I. Conclusions

We have conducted this Phase I ESA of the Site in general conformance with the scope and limitations of ASTM Practice E1527-13. Any exceptions to, or deletions from, this practice are described in Section F of this report.

This assessment identified no recognized environmental conditions in connection with the Site, with the exception of the following:

- A “gasoline house” was located on the 600 Parcel in 1912, and a garage and drycleaner were located in the building on the 612 Parcel from at least 1930 until 1935 and 1977, respectively. Although this Phase I ESA revealed no releases at the Site, based on the storage and use of hazardous substances and petroleum products for business activities associated with the former gasoline house, garage and drycleaner, there is a potential for

unknown releases or numerous *de minimis* releases over time to impact soil, groundwater and/or soil vapor at the Site. Thus, the potential for contamination at the Site related to the former gasoline house, garage and drycleaner is considered a recognized environmental condition.

- The Site is located in an area where numerous properties are listed in the regulatory report with reported releases of hazardous substances and/or petroleum products, including the gas station located at 630 Washington Avenue Southeast (adjoining property east of the Site) from at least 1930 until the late-2000s, where a release was reported to the MPCA on August 6, 2001 and assigned Leak #14406. Groundwater contamination was associated with the release. The MPCA closed Leak #14406 on September 25, 2007. Considering the proximity of Leak #14406 and the reported releases at properties in the area surrounding the Site, it is our opinion the potential exists for soil, groundwater, and/or soil vapor contamination to be present at the Site from offsite sources. The potential for contamination to be present at the Site from offsite sources is considered a recognized environmental condition.

This assessment identified no controlled recognized environmental conditions in connection with the Site.

J. References

References are listed in Appendix I.

K. Environmental Professional Statement and Qualifications

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Qualifications of the environmental professional and the qualifications of the personnel conducting the site reconnaissance and interviews, if conducted by someone other than an environmental professional, are attached in Appendix J.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

BRAUN INTERTEC CORPORATION

Kevin J. Hoffman
Project Scientist

Stephen T. Jansen, MS, PG
Principal Scientist

Appendix H

Natural Heritage Information System Letter

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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Minnesota Department of Natural Resources

Division of Ecological and Water Resources, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-4025

Phone: (651) 259-5091 E-mail: samantha.bump@state.mn.us

March 9, 2016 **Correspondence # ERDB 20160323**

Ms. Sanhita Chatterjee
Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344

RE: Natural Heritage Review of the proposed HUB on Campus;
T29N R24W Section 25; Hennepin County

Dear Ms. Chatterjee,

As requested, the above project has been reviewed for potential effects to known occurrences of rare features. A search of the Minnesota Natural Heritage Information System did identify rare features within an approximate one-mile radius of the proposed project, but these records did not include any federally listed species and were either historical or not of concern given the project details that were provided with the data request form. As such, I do not believe the proposed project will adversely affect any known occurrences of rare features.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. **If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.**

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location (noted above) and the project description provided on the NHIS Data Request Form. Please contact me if project details change or for an updated review if construction has not occurred within one year.

The Natural Heritage Review does not constitute review or approval by the Department of Natural Resources as a whole. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. To determine whether there are other natural resource concerns associated with the proposed project, please contact your DNR Regional Environmental Assessment Ecologist (contact information available at http://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html). Please be aware that additional site assessments or review may be required. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources. An invoice will be mailed to you under separate cover.

Sincerely,

Samantha Bump

Samantha Bump
Natural Heritage Review Specialist

Appendix I

Surrounding Building Height Analysis

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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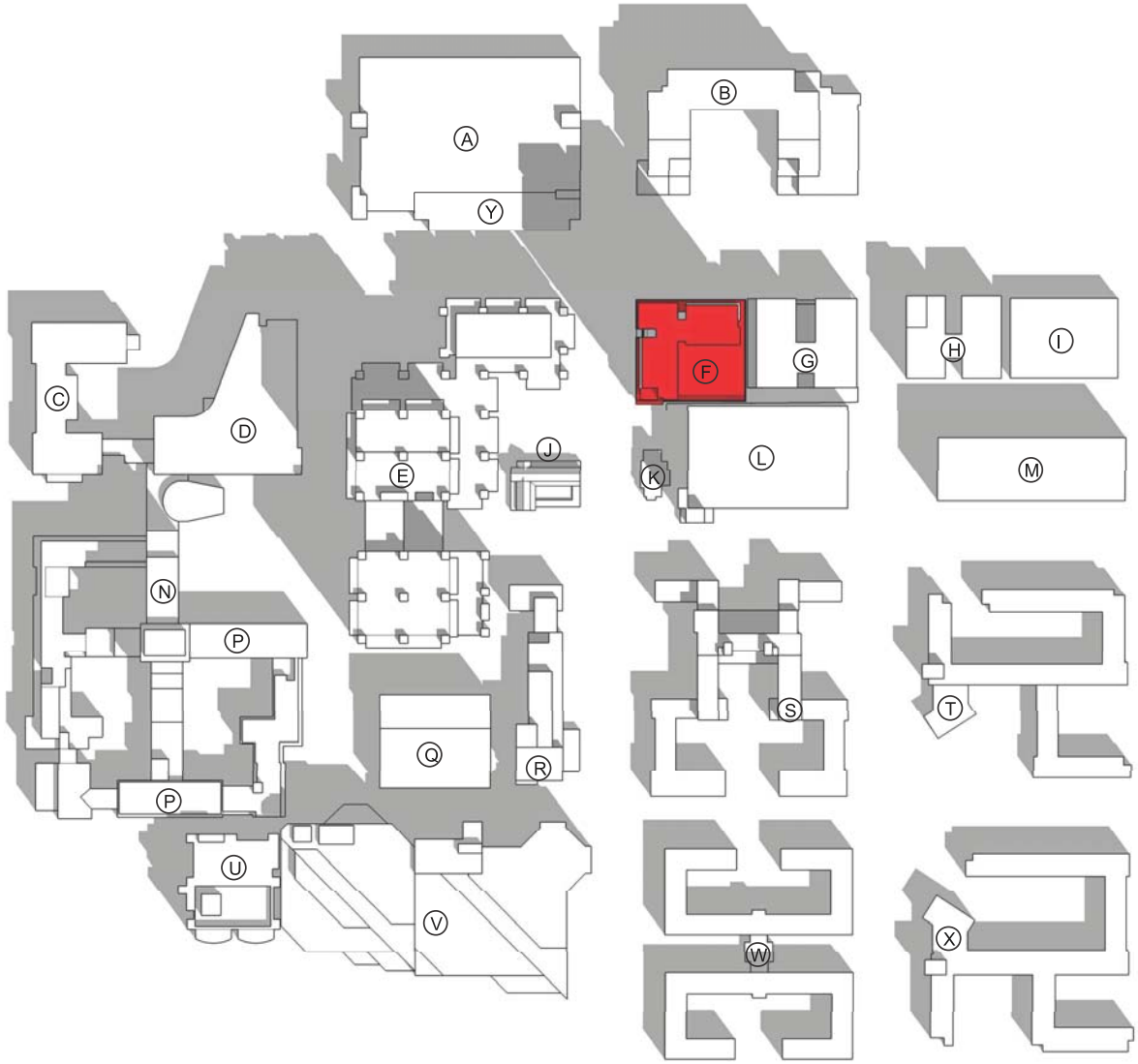

HEIGHT DIAGRAM

LABEL	NAME	HEIGHT
A	Wash. Ave. Parking Ramp	37'-0"
B	Commons Hotel	99'-0"
C	Jackson Hall	60'-0"
D	Molecular & Cellular Biology	90'-0"
E	Moos Tower	268'-0"
F	600 Washington Ave SE	275'-0"
G	The Station on Washington Apartments	61'-0"
H	The 700 on Washington Apartments	68'-0"
I	700 Washington Ave SE	38'-0"
J	Grace University Lutheran Church	31'-0"
K	Phi Chi Medical Fraternity	28'-0"
L	Fairview Patient/Visitor Ramp	60'-0"
M	717 Deleware Building	74'-0"
N / P	Mayo Hall	54'-0" / 179'-0"
Q	Diehl Hall	50'-0"
R	Masonic Memorial Bldg	55'-0"
S	Centennial Hall	74'-0"
T	Territorial Hall	43'-0"
U	Dwan Variety Research Ctr	87'-0"
V	University of Minnesota Medical Center, Fairview	137'-0"
W	Pioneer Hall	46'-0"
X	Frontier Hall	44'-0"
Y	Transportation and Safety Bldg	37'-0"

HEIGHT BASED ON T/ ROOF STRUCTURE
(NOT INCLUDING MECH/ PENTHOUSE)

HARTMIGENE FLUNKARD ARCHITECTURE
HFA
332 NORTH CLARK STREET
CHICAGO, IL 60657
312.329.4466
HFARCHITECTURE.COM

600 Washington Avenue SE

MINNEAPOLIS, MN

02-24-16

Appendix J

Shadow Study

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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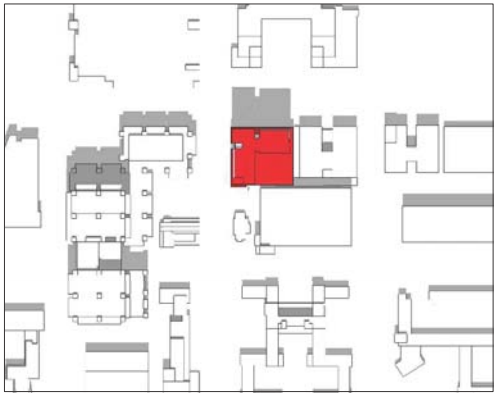
SPRING EQUINOX - 10AM

SPRING EQUINOX - 12PM

SPRING EQUINOX - 3PM

SUMMER SOLSTICE - 10AM



SUMMER SOLSTICE - 12PM

SUMMER SOLSTICE - 3PM

HARTSHORNE PLUNKARD ARCHITECTURE
HPA
222 NORTH CARPENTER STREET
CHICAGO, IL 60607
312.226.4400
HPARCHITECTURE.COM

600 Washington Avenue SE

MINNEAPOLIS, MN

Created in Sketchup Pro 2015
Latitude: 44.973463 | Longitude: -93.230099

02-24-16

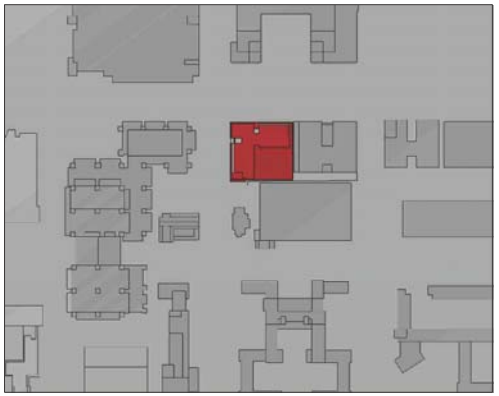
FALL EQUINOX - 10AM

FALL EQUINOX - 12PM

FALL EQUINOX - 3PM

WINTER SOLSTICE - 10AM

WINTER SOLSTICE - 12PM



WINTER SOLSTICE - 3PM

HARTSHORNE PLUNKARD ARCHITECTURE
HPA
222 NORTH CARPENTER STREET
CHICAGO, IL 60607
312.226.4811
HPARCHITECTURE.COM

600 Washington Avenue SE

MINNEAPOLIS, MN

Created in Sketchup Pro 2015
Latitude: 44.973463 | Longitude: -93.230099

02-24-16

Appendix K

Travel Demand Management Plan (TDMP)

600 Washington Avenue SE, Minneapolis
Hennepin County, Minnesota

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Westwood

APPENDIX -- K

Travel Demand Management Plan for

600 Washington Avenue SE

Minneapolis, MN

Prepared for:
Harbor Bay Real Estate Advisors, LLC and
Core Spaces, LLC.
Principal, Harbor Bay Real Est Advisors, LLC
P.O. Box 508
Richmond, IL 60071
(612) 867-7654

Prepared by:
Westwood Professional Services
7699 Anagram Drive
Eden Prairie, MN 55344
(952) 937-5150
www.westwoodps.com

Project Number: R0008298.00
Date: 3/21/2016

Travel Demand Management Plan for

600 Washington Avenue SE

Minneapolis, MN

March 21, 2016

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: _____Stephen J. Manhart_____

Signature:_____

Date: __3/21/2016_____ License # _____22428_____

Westwood

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Appendix A: Technical Appendix

1.0 -- INTRODUCTION

The goal of this redevelopment is to create an iconic Transit-Oriented Development (TOD) mixed-use project that will become a nucleus of activity at the University of Minnesota. The project will provide a unique housing opportunity to a currently unserved population who desire to live in a TOD development that is walkable to campus activities including: education, arts, research, athletics, restaurants and retail.

600 Washington Avenue SE is a "one of a kind" mixed-use development that will be highly attractive to a broad spectrum of potential residents including:

- University of Minnesota employees
- Medical staff
- Family of extended stay hospital patients
- Medical residents, fellows, etc.
- Research faculty conducting short and long term research
- Retired faculty
- Empty-nesters from surrounding neighborhoods (e.g., Prospect Park, Longfellow, River Road, Highland)
- Alumni who desire to live near the activities and culture of the university (sports, classes, music, arts, etc.)
- Students
- Downtown employees
- General population of Minneapolis-St Paul

The project site comprises three parcels:

- 600 Washington Avenue SE (the 600 Parcel) contains a one- and two-story brick building with an approximately 9,200 square-foot footprint. Commercial uses comprise the ground floor while six apartment units occupy the second floor.
- 612 Washington Avenue SE (the 612 Parcel) contains a one-story commercial building that is approximately 4,500 square feet in area.
- 311 Harvard Street SE (the 311 Parcel) is a bituminous surface parking lot, including driveway access from both Harvard Street SE and Walnut Street SE. The 311 Parcel is currently owned by Grace University Lutheran Church (the Church), which is located at 324 Harvard Street SE. The Church uses the 311 Parcel for parking during

their services and events, and leases parking spaces on monthly contracts for use during other times of the week.

1.1 -- MIXED USE PROGRAM SUMMARY

The program for this redevelopment includes two distinct and active uses:

- A high-rise apartment building with 450 units (644 beds) and off-street structured parking.
- Approximately 12,500 square feet of commercial/retail space on the ground floor.

Table 1-1 describes the changes in the land uses with the proposed development.

Table 1-1: Land Use Changes with Proposed Development

Existing Land Uses	Proposed Land Uses
Residential – 6 apartment units	Residential – 450 dwelling units (644 beds)
Commercial Retail Buildings (13.7 ksf.)	Commercial/Retail – 12,500 square feet
Off-Street Parking (34 surface stalls in Lot AA; 3 delivery stalls behind retail)	Off-Street Parking – 196 stalls (151 resident stalls structured above ground level; 45 min. church stalls structured below ground)

(Source: Westwood, February 2016)

The development site lies within the C1 Neighborhood Commercial, C2 Neighborhood Corridor Commercial and R6 Multiple-family Districts and within the University Area (UA), Pedestrian Oriented (PO) and the Mississippi River Critical Area (MR) Overlay Districts. A change to C3A Community Activity Center Zoning District is proposed.

The site is surrounded by two-way streets and the following intersections:

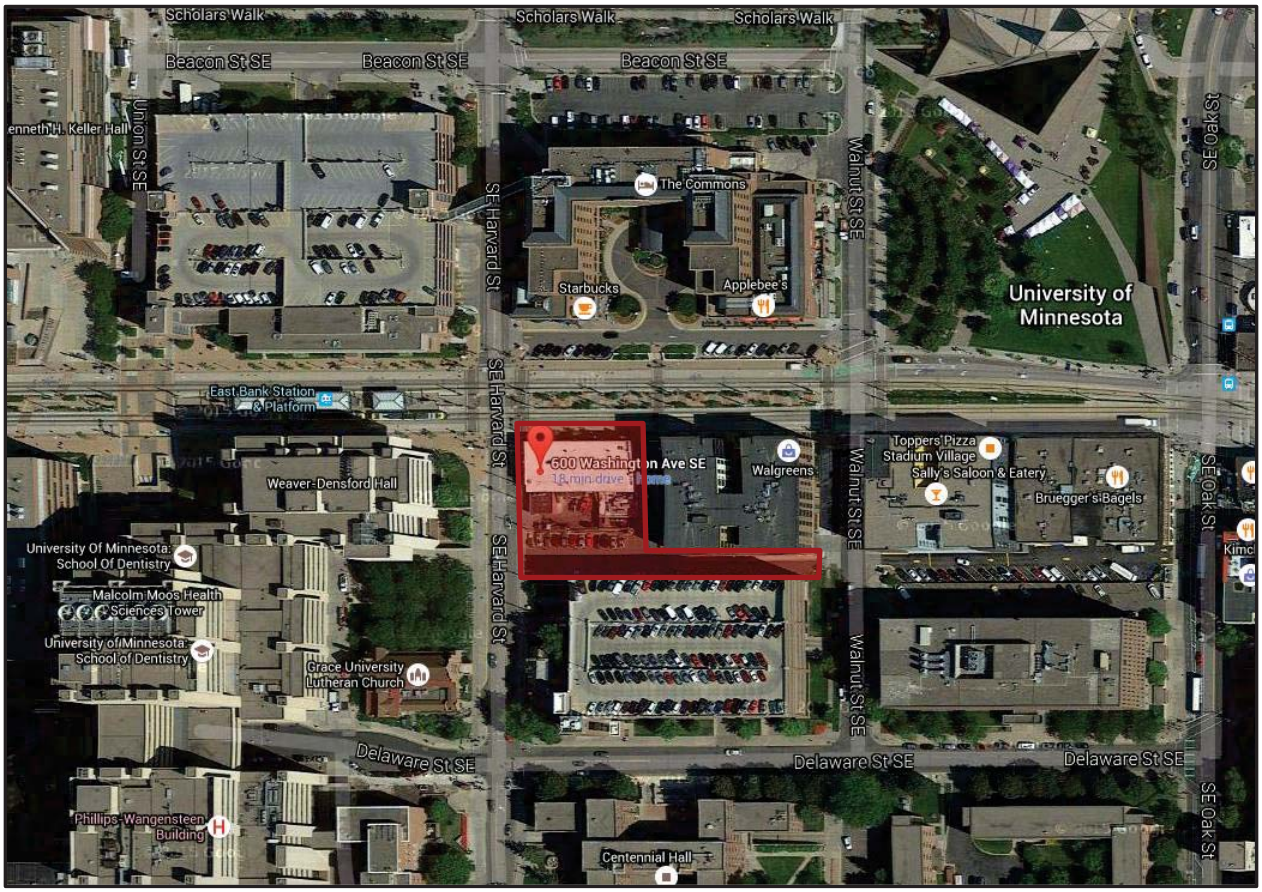
- Harvard Street SE & Washington Avenue SE
- Walnut Street SE & Washington Avenue SE
- Harvard Street SE & Delaware Avenue SE
- Walnut Street SE & Delaware Avenue SE

The site lies along several Metro Transit lines, including the METRO Green Line LRT between downtown Minneapolis and downtown Saint Paul. Nineteen different routes providing full, limited, or express bus transit opportunities are located at or nearby this site. Two routes of the campus circulator transit service also serve this location.

The Developer will propose TDM strategies similar to those identified in other recent plans in the University of Minnesota area. The added dimensions of the mix of uses and the university location combined with the numerous adjacent transit, bicycle and pedestrian facilities will serve to reduce traffic demand to and from this development.

This TDMP will identify the alternative transportation options in the vicinity of the site, will discuss the change in parking and site generated traffic, and will include strategies to encourage the use of these alternative modes.

Figure 1-1: Site Location



(Source: Google Maps, 2015)

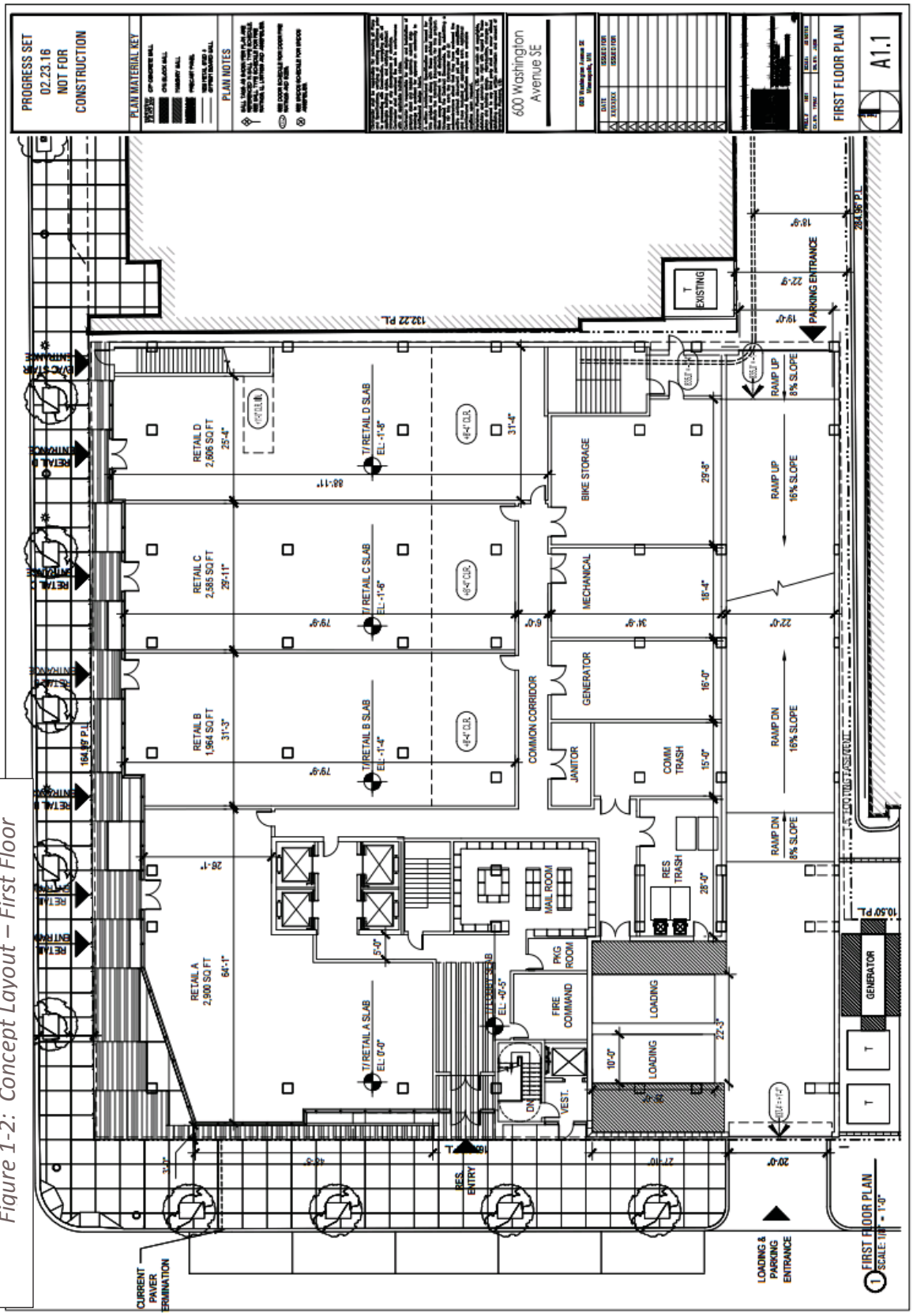


Figure 1-2: Concept Layout – First Floor

(Source: 600 SE Washington – Concept Design Presentation, HPA, 02/23/2016)

Westwood

2.0 -- PEDESTRIAN, BICYCLE, TRANSIT AND CAR-SHARING CONSIDERATIONS

The proposed development's location adjacent to the University of Minnesota affords the future apartment residents, retail employees and customers with many opportunities for the use of alternative transportation modes. These include sidewalks and walking paths, designated bike routes and many bus routes that traverse the streets north and west of the site. The METRO Green Line LRT runs down the centerline of Washington Avenue in front of the building site with a station only a half block away.

2.1 -- TRANSIT

There are numerous transit opportunities adjacent to this site (see Figure 3). The following is a list of the Metro Transit and U of M Circulator Bus routes that run along Washington Avenue SE adjacent to the development site. Due to the narrow lanes of Washington Avenue SE, the bus stops for these routes are located on Oak Street SE, Harvard Street SE and/or Delaware Street SE:

BUS ROUTES

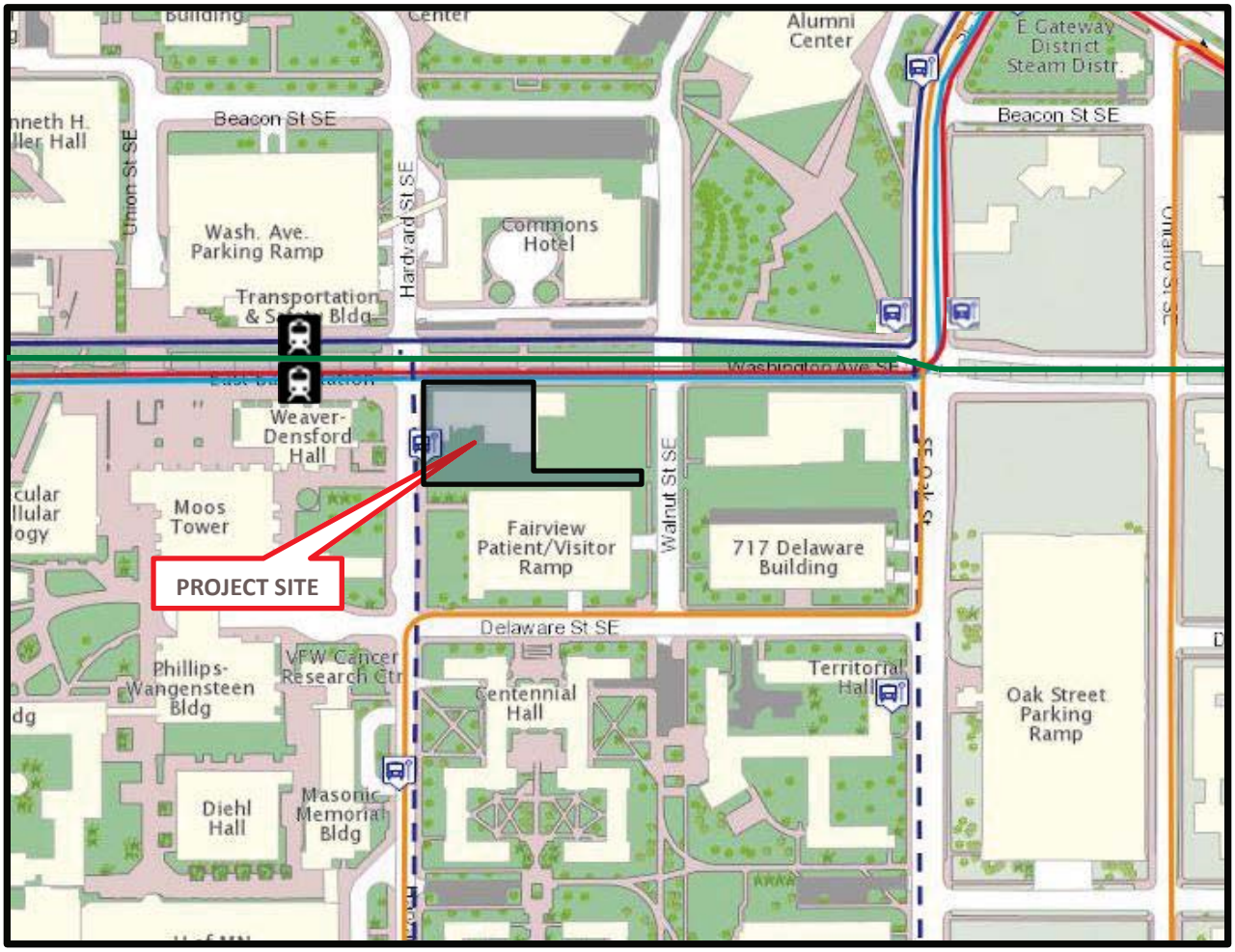
- #2 - Franklin Av - Riverside Av - U of M - 8th St SE – Local Bus Service between 5:00 a.m. and 1:10 a.m. eastbound and westbound
- #111 - Ltd Stop - 66th St - Chicago - Cedar - U of M – Limited stops on Weekdays for northbound only in a.m. and southbound only in p.m.
- #113 - Ltd Stop - Grand Av S - Lyndale Av S - U of M – Limited stops on Weekdays for northbound primarily in a.m. and southbound only in p.m.
- #114 - Ltd Stop - Excelsior Blvd - Uptown - U of M – Limited stops on Weekdays for northbound only in a.m. and southbound only in p.m.
- #115 - Ltd Stop - Grand Av S - Uptown - U of M – Limited stops on Weekdays for northbound primarily in a.m. and southbound only in p.m.
- #118 - Ltd Stop - Central Av - Lowry Av - U of M – Limited stops on Weekdays for southbound in a.m. and northbound only in p.m.
- #120 - U of M Stadium Super Shuttle – McNamara Alumni Center via Clinic & Surgery Center – Weekdays only every fifteen minutes from 7:00 a.m. to 5:45 p.m.
- #121 - U of M - Campus Connector – Blegen Hall to St. Paul Campus -- Weekdays every 5 to 20 minutes between 7:00 a.m. and 2:00 a.m.; and Weekends every 20 minutes between 9:30 a.m. and 2:30 a.m.

- #122 - U of M - University Ave Circulator – West Bank Circulator – Weekdays every 10 to 15 minutes between 7:00 a.,. and 2:00 a.m.; and Weekends every 15 minutes between 9:30 a.m. and 2:30 a.m.; Eastbound only
- #123 - U of M - 4th Street Circulator – East Bank Circulator – Weekdays only – 7:00 a.m. to 6:30 p.m., Eastbound only every 10 minutes
- #129 - U of M - Huron Shuttle – Huron Station to the U of M – Weekdays 6:46 a.m. to 8:55 a.m. Westbound only every 20 minutes
- #252 - 95th Avenue Park & Ride - U of M – Limited service Southbound in the a.m. and Northbound in p.m. only
- #272 - Express - Maplewood - Roseville - U of M – Limited stops at U of M for Westbound in a.m., and Eastbound in p.m. only
- #355 - Express - Woodbury – Mpls – Limited stops at U of M in p.m. only
- #465 - Burnsville-Minneapolis-U of M – Express Bus Route (Weekday only, every 15 minutes to 1 hour between 8:07 a.m. and 10:07 p.m. Southbound; and between 6:40 a.m. and 9:40 p.m. Northbound)
- #475 - Apple Valley-Cedar Grove-Mpls/U of M – Express Bus Route (Weekday only, primarily Northbound only in a.m., Southbound only in p.m.)
- #490 - Prior Lake-Shakopee-Minneapolis – Express Bus Route (Weekday, Northbound only in a.m., Southbound only in p.m.)
- #579 - Express - U of M – Southdale – Express Bus Route (Weekdays only, Limited stops Northbound only in the a.m.; Southbound only in the p.m.)
- #652 - Express - Plymouth Rd - Co Rd 73 Park & Ride - U of M -- Express Bus Route (Weekdays only, Limited stops Eastbound only in the a.m.; Westbound in the p.m.)
- #684 - SW Transit - Express - Eden Prairie – Southdale – Express Bus Route (Weekdays only, Limited stops Westbound only in the a.m.; Eastbound in the p.m.)
- #695 - SW Transit - Express - Chaska - Chanhassen – Mpls – Express Bus Route (Weekdays only, Limited stops Eastbound only in the a.m.; Westbound in the p.m.)
- #698 - SW Transit - Express - Chaska - Chanhassen – Mpls – Express Bus Route (Weekdays only, Limited stops Eastbound only in the a.m.; Westbound in the p.m.)
- #789 - Maple Grove - U of M – Express Bus Route (Weekdays only, Limited stops Southbound only in the a.m.; Northbound in the p.m.)

NEARBY BUS STOPS

- Bus Stop #41248 – Corner of Oak Street SE and Washington Ave SE (approximately 255 feet from northeast corner of 600 Washington Ave SE site); served by Routes 2, 111, 113, 114, 115, 118, 252, 465, 475, 490, 579, 652 and 789.

Figure 2-1: U of M Transit Routes



Legend

Bus Stops

Bus Routes

- 4th Street Circulator - 123
- Campus Connector - 121
- Campus Connector Summer Route Service
- St. Paul Circulator - 124
- Stadium Superblock Circulator - 120
- University Ave Circulator - 122
- University Ave. Circulator extended route

Light Rail Transit Stops

Light Rail Transit Route

GREEN LINE

NOTE: Several other bus routes follow the Washington Avenue route in front of the development as noted in the text.

SOURCE: U of M Twin cities Interactive Map, .2016

- Bus Stop #49885 – Harvard St SE & Masonic Memorial (approximately 450 feet from southwest corner of 600 Washington Ave SE site); served by Route 120.
- Bus Stop #53766 – Oak Street SE & Delaware Street SE (approximately 800 feet from southeast corner of 600 Washington Ave SE site); served by Routes 129, 684, 695 and 698.
- Bus Stop #52141 – Oak Street SE & McNamara Alumni (approximately 1250 feet from northeast corner of 600 Washington Ave SE site); served by Route 120.

LIGHT RAIL TRANSIT

- METRO Green Line – LRT proceeds eastward to Saint Paul Union Station and westward to Target Field Station (Weekdays and weekends around the clock every 10 to 60 minutes). Connections can be made to METRO Blue Line at Downtown East Station that can take riders to the airport and Mall of America.

NEARBY LRT STATION

- Stop #56002 – East Bank Station & Platform – Eastbound trips (approximately 200 feet from northeast corner of 600 Washington Ave SE site); served by METRO Green Line.
- Stop #56042 – East Bank Station & Platform – Westbound trips (approximately 200 feet from northeast corner of 600 Washington Ave SE site); served by METRO Green Line.

2.2 -- BICYCLE

Minneapolis, and especially the U of M area, is heavily traveled by bicyclists. The following two figures illustrate the significant bicycle opportunities and usage present in the U of M area

- As shown on Figure 2-2, there are designated on-street bike routes along Washington Avenue SE that tie into the elaborate bike trail system of Minneapolis. This system would enable potential residents to easily travel to other U of M locations such as the TCF Stadium, Dinkytown, as well as venture to the west across the Mississippi River into the West Bank Campus, or to the northeast toward the Saint Paul Campus area.
- As shown on Figure 2-2, there are six NiceRide Minnesota stations within four blocks of the site. NiceRide Minnesota is a non-profit bike sharing program being deployed throughout the Twin Cities, and is an available strategy to reduce auto trips.

Figure 2-2: Existing Bike Routes

SOURCE: City of Minneapolis Bicycle Map, City of Minneapolis Public Works www.minneapolismn.gov/bicycles

- Figure 2-3 illustrates the estimated daily bicycle traffic along the streets in the U of M area, as reported by the Minneapolis Public Works Department.[1] Daily bicycle traffic along the designated bike routes of Washington Avenue is several thousand bicyclists per day, while Oak Street SE had a daily count of approximately 1,110 bicyclists per day in 2014. This number has likely increased with completion of the Oak Street two-way protected bike-lane in 2015..

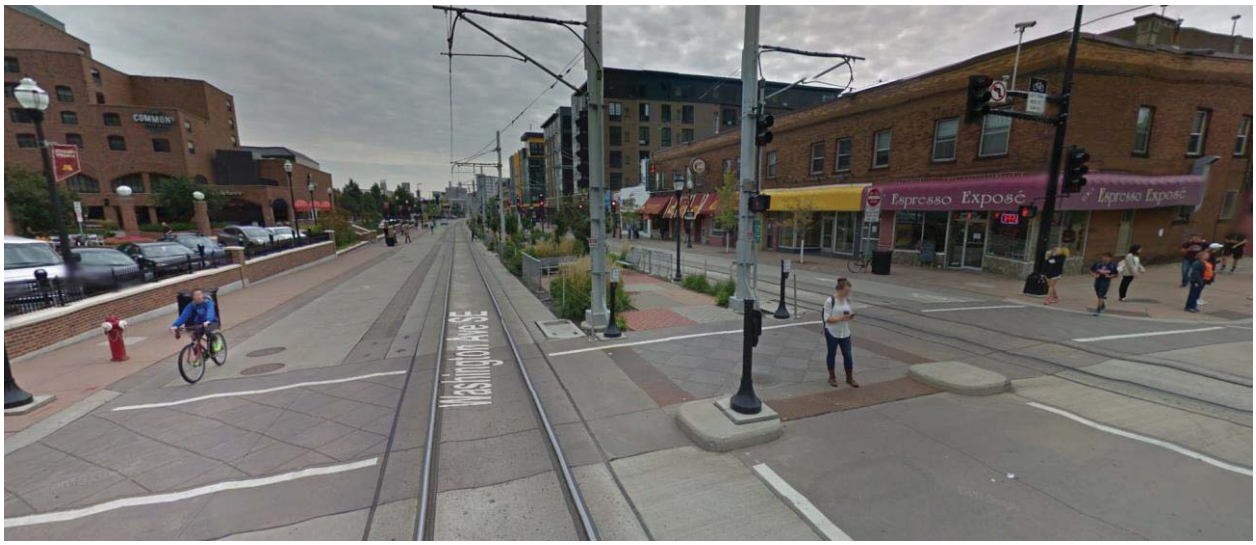
Figure 2-3: Bicyclist Estimated Daily Traffic (EDT)

SOURCE: Minneapolis Bicyclist & Pedestrian Count Report 2014, published by the Minneapolis Public Works Department, December 22, 2014.

[1] Minneapolis Bicyclist & Pedestrian Count Report 2014, published by the Minneapolis Public Works Department, December 22, 2014.

Washington Avenue SE on the north side of the project site is referred to as the "Washington Avenue Transit/Bike/Pedestrian Mall". As such, both directions of the street are closed to general traffic between Pleasant and Walnut Streets. Only pedestrians, transit buses, light-rail trains, emergency vehicles and bicycles are permitted on the Washington Avenue Transit/Bike/Pedestrian Mall between Walnut and Church streets. In this area, buses and trains will operate jointly on light-rail tracks at restricted speeds. Bicycles and emergency vehicles will share outside lanes. See Figure 2-4 below.

Figure 2-4: Washington Avenue Transit/Bike/Pedestrian Mall – looking southeast toward corner of Washington & Harvard



(Source: Google Maps Streetview, February 2016)

2-3 – CAR-SHARING

In recent years, several car-sharing options have become available throughout the Twin Cities, and especially in the University area. Car-sharing companies, such as HOURCAR, Car2Go, ZipCar and Enterprise CarShare make fleets of vehicles available to customers for short-term rentals. These rentals are geared to registered customers who do not own personal vehicles, but require a vehicle for short-term personal use. Gasoline, insurance and maintenance are included in the rental cost.

HOURCAR, Enterprise CarShare and ZipCar offer vehicles in designated parking spaces, while Car2Go offers cars that can be collected and parked on city streets. Figure 2-5 shows the proximity to these stations near the redevelopment site.

There are hubs for HOURCAR located less than one block to the northwest of the site, and two blocks to the southeast of the site. These would be within walking distance and would be a positive amenity when a personal vehicle is needed on a temporary basis.

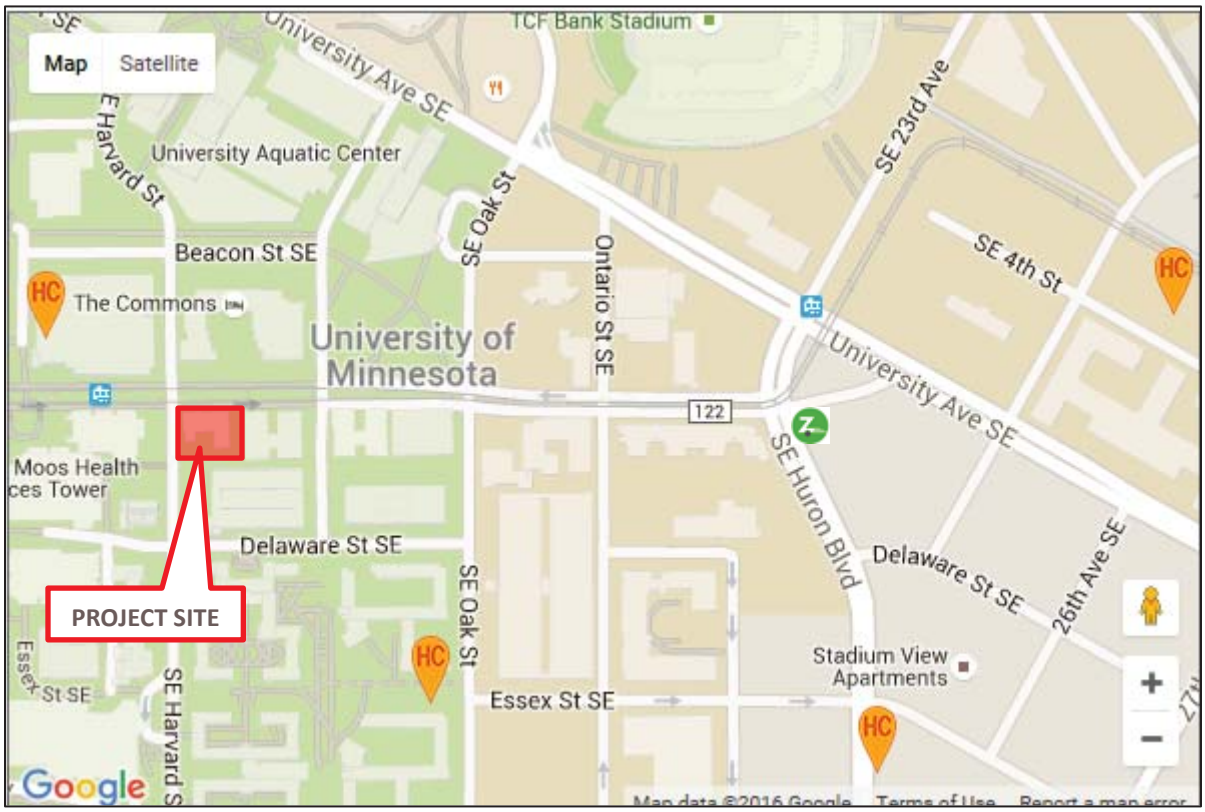
Other shared vehicle providers offer vehicles at sites throughout Minneapolis, such as:

- Car2Go (https://www.car2go.com/en/minneapolis/),
- Enterprise CarShare (https://www.enterprisecarshare.com/us/en/home.html), and
- Zipcar (http://www.zipcar.com/minneapolis /find-cars)

ZipCar has a parking station at the east end of Washington Avenue SE at Huron Boulevard. There are no Enterprise CarShare stations currently within walking distance of the project site.

Car2Go allows customers to find a vehicle using their smartphone, check in, drive the vehicle, park it and keep it to drive it further, or simply leave it where you parked it. While there are a few designated "parkspots" around the Twin Cities, most vehicles are scattered where people have left them. (NOTE: The Car2Go website shows no vehicles parked on campus, but are sometimes found adjacent to campus on city streets.)

Figure 2-5: 2015 Shared Car and NiceRide MN Station Locations

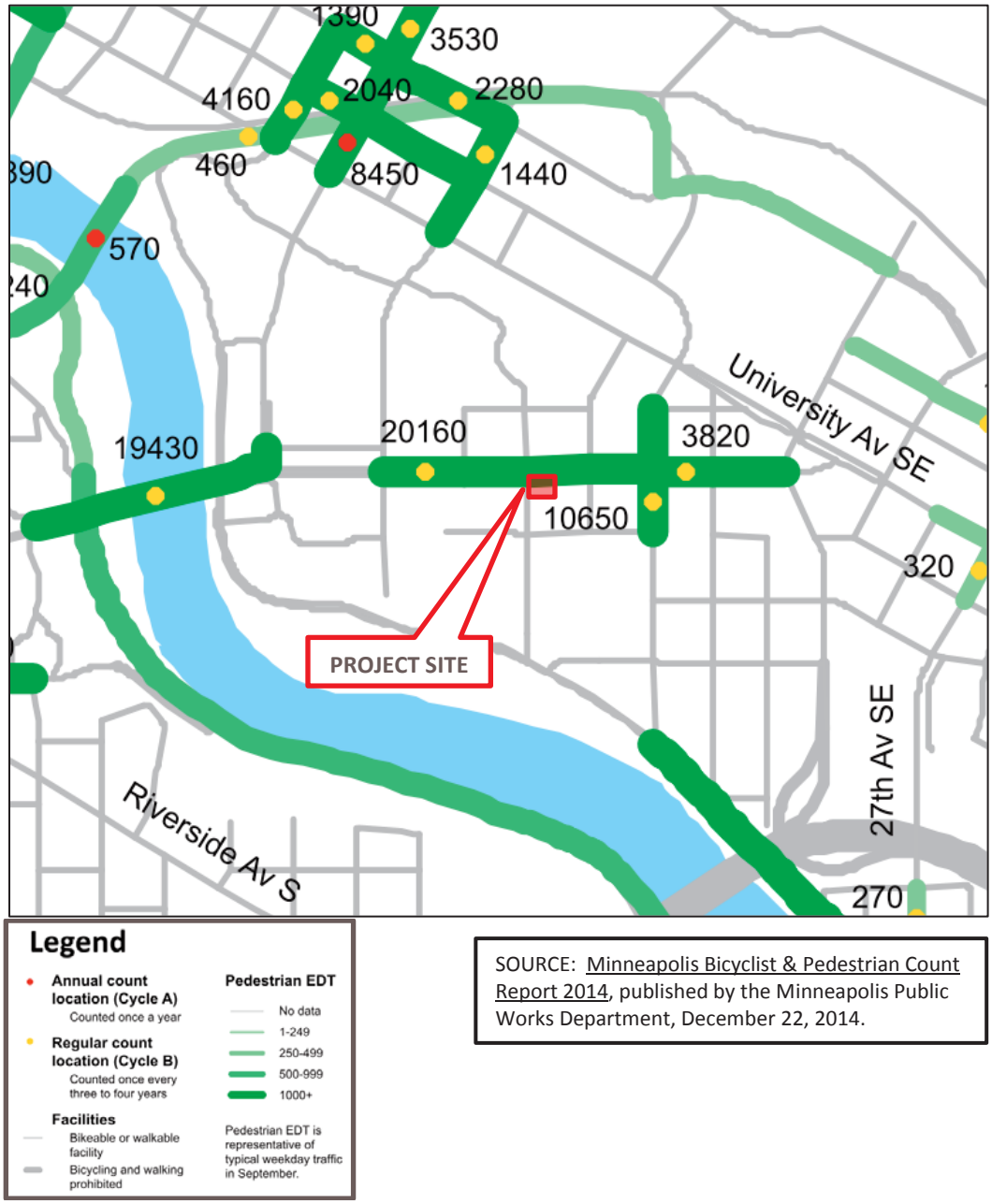


SOURCE: Google Maps, 2016; www.zipcar.com ; www.hourcar.com

2-4 -- PEDESTRIANS

Pedestrian activity is quite heavy in the University of Minnesota area. Figure 2-6 shows the estimated trips per day by pedestrians in this area, as reported by the Minneapolis Public Works Department.[2]

Figure 2-6: Pedestrian Estimated Daily Traffic (EDT)



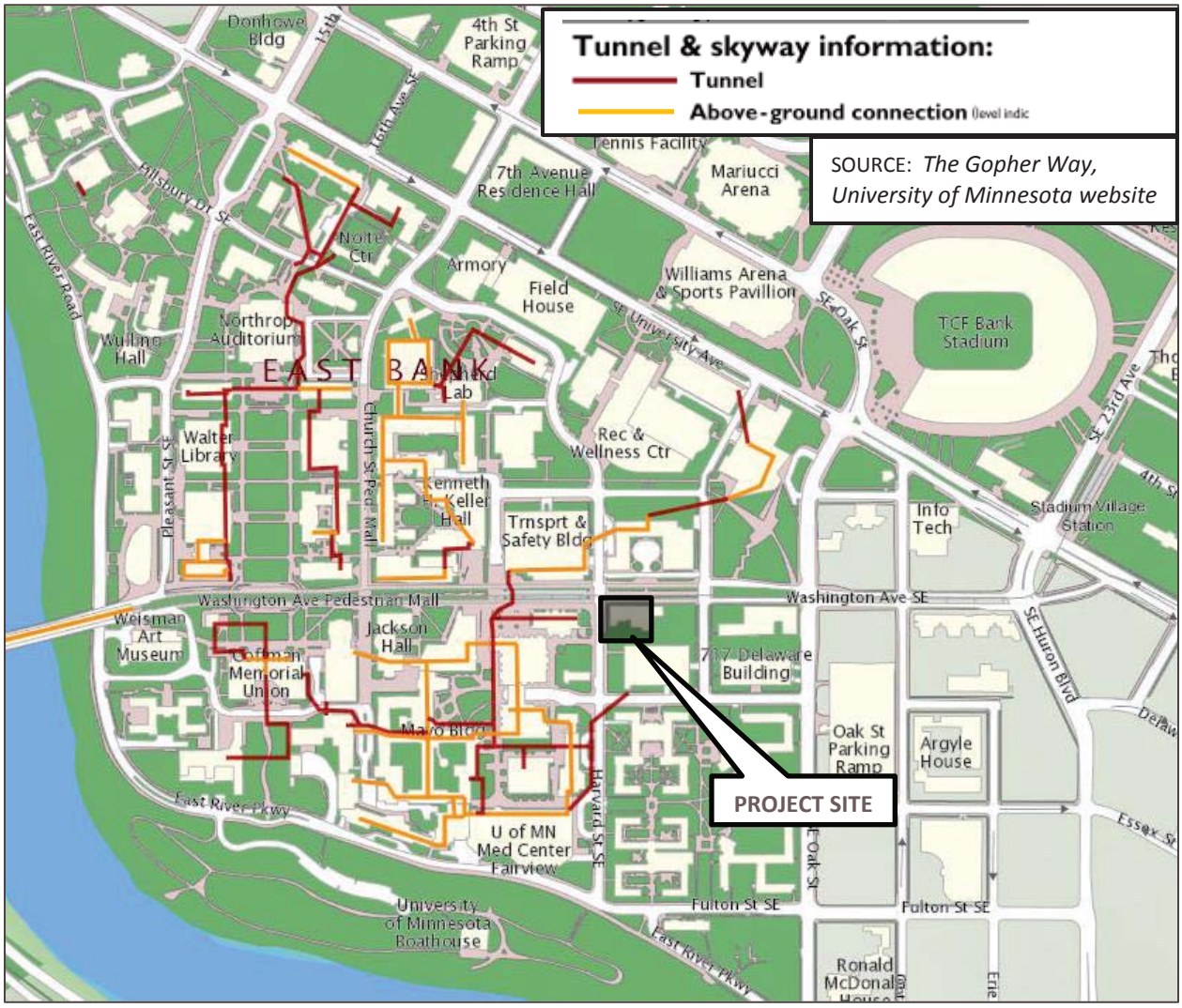
SOURCE: Minneapolis Bicyclist & Pedestrian Count Report 2014, published by the Minneapolis Public Works Department, December 22, 2014.

[2] Minneapolis Bicyclist & Pedestrian Count Report 2014, published by the Minneapolis Public Works Department, December 22, 2014.

Washington Avenue SE is the main east-west pedestrian arterial in the university area. In this area, pedestrian counts show thousands of pedestrian trips a day occur along Washington Avenue SE. As a result, the "Washington Avenue Transit/Bike/Pedestrian Mall" has been constructed to serve pedestrians as well as bikes and transit through this area. Sidewalks exist along all public streets that are adjacent to the project site. These sidewalks provide pedestrian access to the robust sidewalk and pedestrian trail network in the U of M area, and connections to trails throughout the Twin Cities.

The University of Minnesota has a network of skyways and tunnels that provides pedestrian access without having to walk outside in inclement weather. This network is known as "The Gopher Way" and is depicted on Figure 2-7.

Figure 2-7: University of Minnesota Gopher Way – Skyways/Tunnels



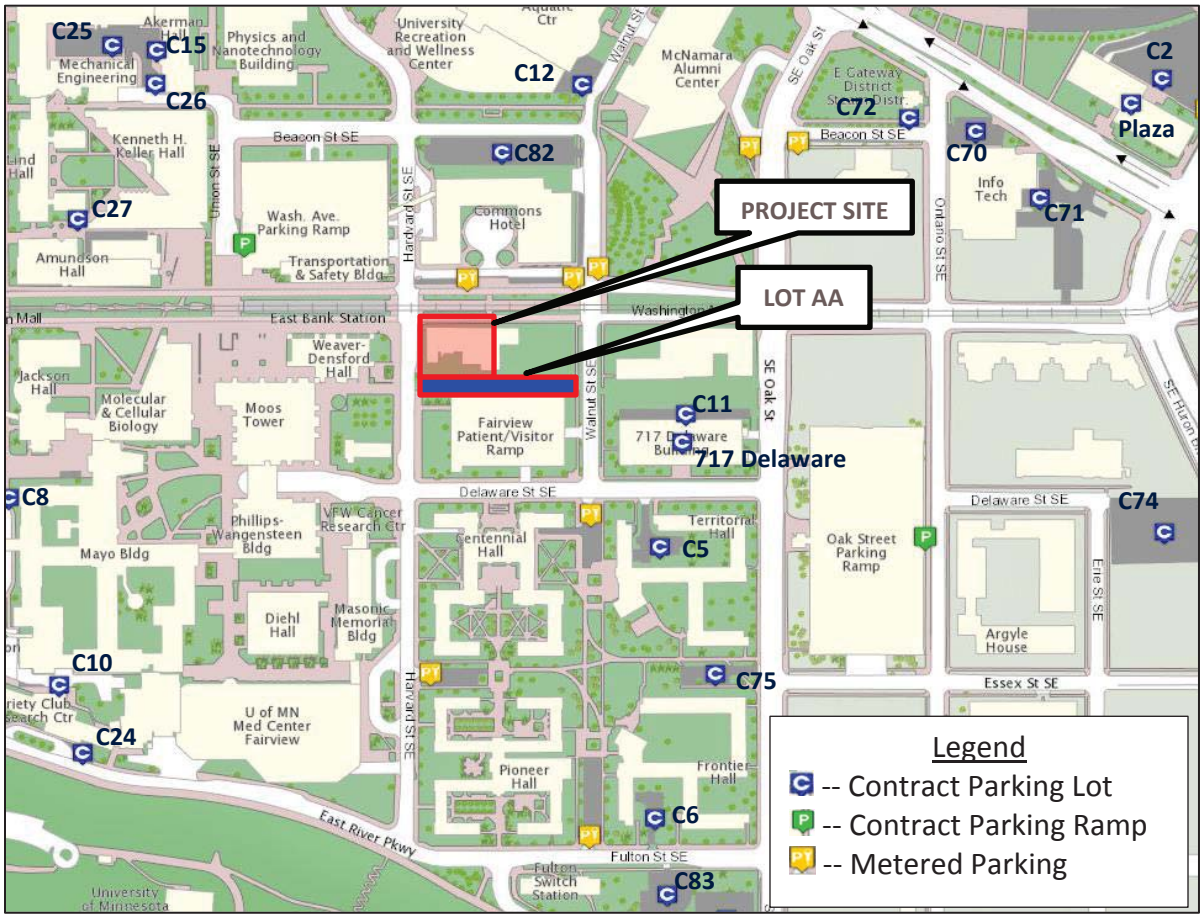
3.0 -- PARKING CONSIDERATIONS

3.1 – EXISTING PARKING

The redevelopment at 600 Washington Avenue SE will displace 37 surface parking spaces. Thirty-four of these stalls are located in Lot AA on the 311 Parcel, which is currently owned and used by Grace University Lutheran Church. The Church uses the lot for their services and events and then rents the space on monthly contracts when not in use for Church events. Three private parking stalls that are used by an existing commercial tenant for delivery parking are located immediately behind the 600 Parcel site.

Several contract surface lots and parking ramps exist around the development site (see Figure 3-1). In addition, there are several stalls of metered parking both on- and off-street.

Figure 3-1: Parking Lots and Ramps in Study Area



(Source: University of Minnesota Twin Cities Campus Interactive Map, February 2016)

An inventory was taken to review parking capacities at these lots and ramps (See Table 3-1). This inventory shows there are nearly 3,000 parking stalls available in the immediate study area. Of these 3,000 stalls, 644 stalls are contracted either through the University, the Lutheran Church, or others.

Table 3-1: Parking Lot and Ramp Capacities in Study Area

Parking Lot or Ramp	Location	Restricted or Public	Parking Capacity
Lot AA	South of 600 Washington SE	Contract	34 stalls
Lot C24	391 East River Road	Contract	1 stall
Lot C10	Variety Club Research Center	Restricted	unk
Lot C8	405 Church St. SE	Contract	4 stalls
Lot C27	Amundson Hall	Restricted	unk
Lot C15	126 Union St SE	Contract	4 stalls
Lot C25	126 Union St SE	Contract	37 stalls
Lot C26	130 Union St SE	Contract	1 stall
Lot C82	Commons Hotel	Hotel	82 stalls
Lot C12	Ctr for Outdoor Adventure	Restricted	2 stalls
Lot C14	230 Walnut St SE	Contract	7 stalls
Lot C72	875 Beacon St. SE	Contract	1 stalls
Lot C74	955 Delaware St. SE	Contract	95 stalls
Lot C70	200 Ontario St	Contract	23 stalls
Lot C71	2220 University Ave SE	Contract	3 stalls
Lot C2	304 23rd Ave SE	Contract	29 stalls
Plaza Garage	2221 University Ave SE	Contract	55 stalls
Lot C11	3334 Oak St SE	Contract	27 stalls
Lot C5	710 Delaware St SE	Contract	6 stalls
Lot C75	500 Oak St. SE	Contract	11 stalls
Lot C6	707 Fulton St SE	Contract	6 stalls
Lot C83	324 South 9th Street	Closed	0 stalls
717 Delaware St SE Garage	700 5th Avenue S.	Faculty/Staff	unk
Washington Avenue Parking Ramp	614 S. 7th Street	Public	400 stalls
Oak Street Parking Ramp	401 Oak St SE	Public	2165 stalls
TOTAL (approximate)			2,993 stalls (incl. 430 contract)

(Source: Parking Information from U of M Parking & Transportation Services.)

In addition, Figure 3-1 shows there are numerous on-street metered parking stalls in the immediate area, as well as throughout the surrounding area.

Not included in this analysis are approximately 660 stalls that are in the Fairview Patient/ Visitor Ramp immediately to the south of the 600 Washington Avenue SE development. This parking ramp is solely for patients and visitors to the Fairview University Medical Center.

In 2012, the Stadium Village/University Avenue Parking and Transportation Study was completed.[3] In it several segments of the University of Minnesota/Stadium Village area were inventoried for parking supply and utilization. This study was conducted to "…address parking in the future, under a long term scenario where LRT infrastructure and operations will have helped catalyze Transit-Oriented Development projects and a reshaping of the Stadium Village area."[4] The findings showed that within the study segment encompassing 600 Washington Avenue SE, between 41 and 75 percent of the off-street parking was utilized, and there existed between 25 and 59 percent excess capacity during both non-event and event days at the University. It is noted that this study was conducted prior to the completion of the LRT route along Washington Avenue SE, but showed that parking was available near the stadium area and around campus for event and non-event parking. This was despite the removal of on-street parking along Washington Avenue SE.

3.2 – ON-SITE PARKING

The 600 University Avenue SE development will provide structured off-street residential parking, as well as private/contract stalls that will replace stalls lost from Lot AA. Four-and-one-half levels of above-ground parking are proposed for residential contracts, with a total residential parking supply of 151 residential stalls. One level of parking is proposed below-ground for use and subleasing by the Church, with a total underground parking supply of 45 to 50 stalls. The first nine stalls on the second floor parking area will be labeled for guest parking. In addition, four stalls will be designated for handicapped parking. No stalls are proposed for use by the commercial uses in the development. It should be noted that the underground stalls are intended for use by the Church during services and other events, but will be contracted for use by others on non-event days.

Minimum and maximum parking requirements for the proposed mix of uses in the development are determined by the City's Zoning Code, Chapter 541, Article III – Specific Off-Street Parking Requirements, and by parking provisions in the PO and UA Overlay Districts. The Base Zoning pertains to the rate at which the parking requirement is calculated. The Applied Zoning calculates the numbers of stalls required for each use.

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[3] Stadium Village/University Avenue Parking and Transportation Study, prepared for the City of Minneapolis, Hennepin County and the University of Minnesota, by Biko Associates and Michael Sachi, Minneapolis, MN, 02/18/2012.
[4] Ibid, page 3.

Table 3-2 illustrates the results of a parking analysis of the projected uses for the site. The development proposes 644 bedrooms. The minimum residential parking requirement in the UA Overlay District is .5 spaces per bedroom or 349 spaces. However, this requirement is reduced to 70% of the UA Overlay requirement or .35 spaces per bedroom in the Stadium Village Transit Station Area (PO – TSA Overlay District). Seventy percent of 349 stalls is 225 stalls. In addition, Chapter 541 requires that 1 guest stall be provided for every 50 dwelling units. In the Stadium Village PO District, there is no minimum parking requirement for non-residential uses.

There is no maximum residential parking requirement for enclosed parking. There is no maximum number of apartment guest stalls allowed. The maximum parking requirement for retail commercial uses is 1 space per 200 sq. ft. of gross floor area; however, this maximum is reduced in the PO District to 75% of the general requirement.

Table 3-2: Minneapolis Zoning Code Parking Requirement

Land Use	Proposed DUs, Rooms, ksf or Occupants	Base Zoning		Applied Zoning	
		Minimum	Maximum	Minimum	Maximum
High Rise Apartment	450 units (644 beds)	0.35 per bedroom	1:1 du	225 stalls	No max if enclosed
Apartment Guest	450 Units	1 guest stall per 50 dwellings	No max	9 stalls	No max
Commercial	12.5 ksf	0	0.75 of 1 per 200 sq. ft. of GFA	0 stalls	47 stalls
TOTAL				**234 stalls**	**No max**

The 151 residential parking stalls proposed for the development is less than the minimum residential requirement of 234 stalls; thus a variance will be required

3.3 – CONTRACT PARKING

The University offers contract parking to students, faculty and staff. Parking is available at ramps, lots and garages for a monthly fee to University faculty and staff who work a minimum of 75% time.

Full-time student parking contracts are available each semester (spring and fall only) through an online lottery. Students may enter the lottery each semester, but entering does not guarantee a parking contract. Contracts are good for one semester only. Locations vary but always include spaces on each campus.

3.4 – COMPARISON WITH ITE PARKING GENERATION RATES

The Institute of Transportation Engineers (ITE) publication Parking Generation, 4th Edition, provides parking rates and equations for peak parking demand based on land use. Table 3-3 below lists the parking generation that was calculated based on the types and densities of land uses proposed for the 600 Washington Avenue SE site development.

Table 3-3: Estimated Parking Requirements per ITE

Land Use	ITE Code	Size	ITE Parking Rate or Equation	Weekday Peak Period Parking Demand
High Rise Apartment	222	450 units	equation	598 stalls
Shopping Center	820	12.5 ksf	ratio	10 stalls
TOTAL				**608 stalls**

(Source: ITE Parking Generation, 4th Edition 2010)

The TOD nature of the proposed development is expected to attract many residents who do not own cars and result in a much-reduced parking demand compared to the ITE parking generation rates. Because the development is located in the University area, trips can be accommodated by transit, pedestrian and bicycle use. If there is an occasion when a vehicle is needed, car sharing opportunities exist close-by. However, if parking demand exceeds parking capacity at the development, the residents of the development have several options. They may be able to contract for a parking space with the University if they are a student, faculty or staff member. Students will be required to enter a lottery each semester for an available parking spot. Otherwise, as indicated in Table 3-1, there are several pay parking lots and on-street stalls in the immediate area that will be able to accommodate the additional demand.

3.5 – BICYCLE PARKING

Table 3-4 outlines the minimum bicycle parking required for this development by the City of Minneapolis and the amount of bicycle parking being provided by the development. This development will meet the City requirements.

It is noted that the eighteen (18) sidewalk bike spaces are proposed to be located on the public sidewalk, which will require approval by Public Works.

Table 3-4: Bicycle Parking Requirements per City Zoning Code

Land Use	Units	Requirement	Required Spaces from Table 541-3 - Bicycle Parking Requirements	Number of Bicycle Stalls Being Provided by this Development
Apartment	450 units	1 space/bedroom	644 (at least 580 long-term)	644 (at least 580 long-term)
General retail sales	12.5 ksf	3 spaces or 1 space per 5,000 sq. ft. of GFA, whichever is greater (not less than 50% shall be short-term)	3 (at least 2 short-term)	18 (all short-term)
TOTAL			**647 (at least 580 long term, and at least 2 short-term)**	**647 (at least 580 long term, and 18 short-term)**

3.6 – LOADING SPACE

City Code specifies loading spaces based on all land uses within a development. Table 3-5 lists the loading space requirements by land use per code and the loading spaces proposed to be provided on site.

Table 3-5: Loading Space Requirements per City Zoning Code

Land Use	Code Requirement	Provided On Site
Residential	1 large (12'x50') or 2 small (2 x 10'x25')	2 small (2 x 10'x25')
General Retail Sales & Service	none	none

Figure 3-2 illustrates the proposed location and size of the loading spaces on the site plan. Two small spaces are being provided near the Harvard Street SE access.

The property will be leased as conventional multi-family housing. As such, the lease dates will vary depending on the number of leases signed for a given start date.

This will mitigate the congestion that results from a concentrated move-in associated with one move-in date as are typical with residential developments near universities.

Standard move-in procedures will include parking moving trucks in the loading dock and transporting items through the main lobby and upstairs using the large elevator bank. Protective coverings on elevator surfaces will be used during move-in periods and elevators will be used on independent service to ensure a quick move-in for tenants.

Approximately one-fifth of the unit mix proposed will be micro-efficiency units that will be furnished. These individuals will be able to utilize the parking garage on move-in days as long as they move-in with vehicles that are able to fit within the overhead clearance for the garage.

The property manager will take additional measures to manage loading activity when several move-ins are expected on the same day, including staging tenant move-in times and the use of the loading and garage areas. Management will coordinate efforts with the City when these situations arise. One option would be for management to obtain permission for temporary loading zones on Harvard Street.

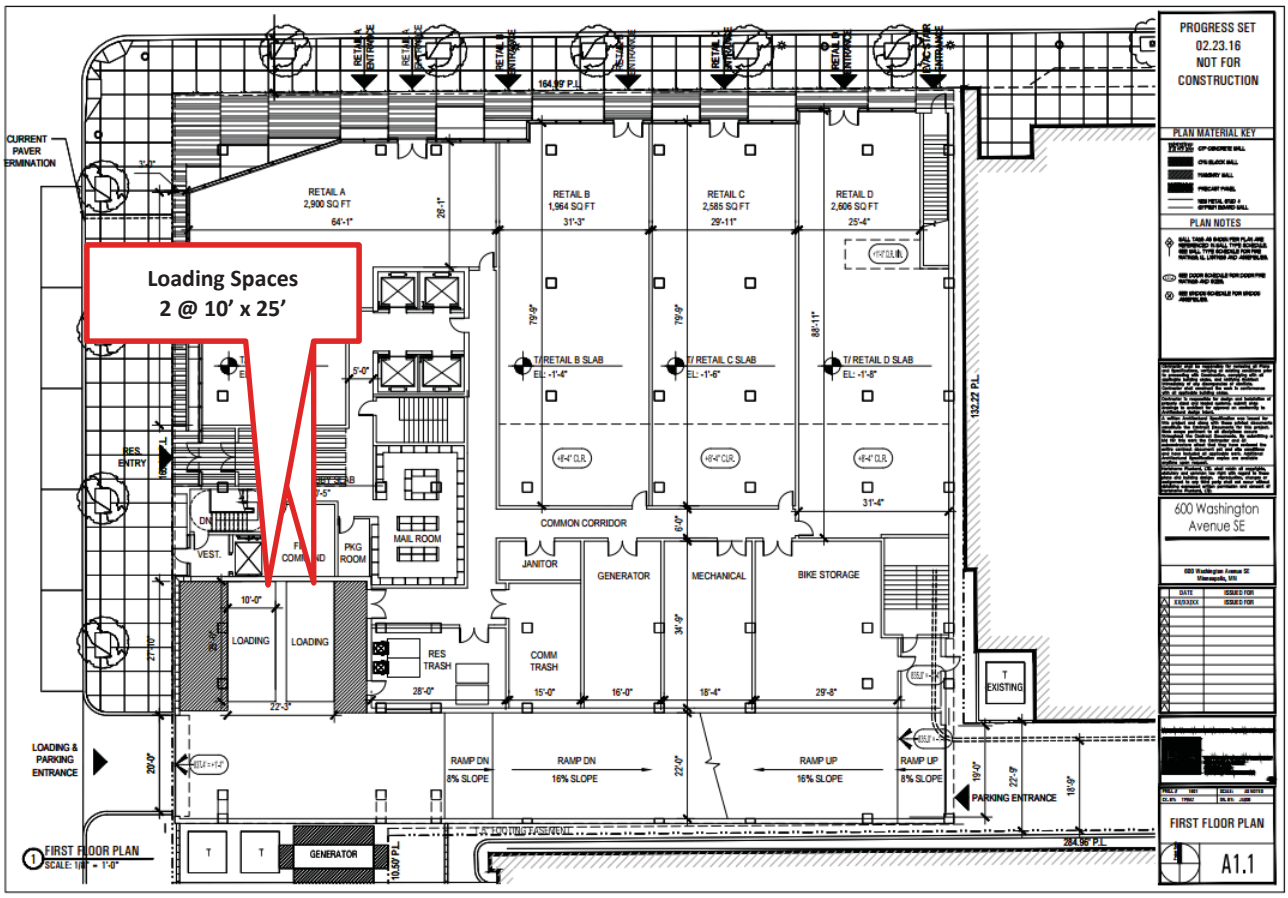
Management would also reserve the right to hire moving staff for the day to ensure move-ins are completed quickly and easily for tenants and for the surrounding community. This measure has worked well for the property manager in the past and they feel that the equipment, manpower and expertise that a local moving company is very effective.

3.8 – PARKING SECURITY

The operators of 600 Washington Ave SE will be using a parking access control and security system that will require proper credentials to be presented to gain entry into the parking garage. Credentials will be in the form of a proximity card or key fob for apartment residents. Guests will be provided access to the guest spots in the garage by either guest cards or by intercom. In the event someone mistakenly enters the driveway from Walnut Avenue SE and cannot turnaround in the driveway, they will be able to use the intercom system to enter and turnaround in the garage.

The below-grade church parking will be secure and managed in coordination with the staff of the church. Vehicular ingress and egress operational details will be coordinated prior to opening. A dedicated vestibule with stair and elevator will provide pedestrian entrance/exit from Harvard to the below-grade parking level.

Figure 3-2: Proposed Loading Locations



(Source: HPA, February 2016)

4.0 – TRAFFIC CONSIDERATIONS

4.1 – EXISTING TRAFFIC

Westwood looked at the existing traffic conditions at the six study intersections:

- SE Harvard Street & Washington Avenue SE
- SE Walnut Street & Washington Avenue SE
- SE Harvard Street & Delaware Avenue SE
- SE Walnut Street & Delaware Avenue SE
- SE Harvard Street & Lot AA Access Driveway/Loading Area
- SE Walnut Street & Lot AA Access Driveway/Loading Area

Existing peak hour turning movement volumes are shown in the Technical Appendix. Signal operations of the side-street intersections with University Avenue SE are impacted by pedestrian, bicycle and transit service in the area. Signals are preempted several times an hour in the peak hours to allow preferential movement for transit service. Many pedestrians also cross University Avenue SE at these intersections.

Westwood used video cameras to conduct traffic counts and monitor traffic operations along University Avenue SE at Harvard and Walnut Streets. From the video logs, Westwood determined total cycle lengths for the signal systems. These cycle lengths varied based on time of day, on side-street actuations and on transit preemptions. During the a.m. peak hour, these cycle lengths varied between 85 seconds and 224 seconds (nearly four minutes). In the p.m. peak hour, total cycle lengths dropped to between 40 seconds and 110 seconds.

There were eleven trains that passed the intersections during each of the peak hours observed. When the trains approached these intersections simultaneously in opposite directions, the preemption was extended. This resulted in the long cycle lengths as the signals dwelled on green for the east/west traffic on Washington Avenue SE.

Westwood utilized *PTV Vistro 3* software to perform traffic analysis at the site. The software utilizes the calculations of levels of service from the latest version of the Highway Capacity Manual (HCM 2010) to determine control delay and worst movements. For two-way stops, these values are taken from the movement with the highest delay value. For all other control types (e.g., four-way stops, signalized intersections), level of service is for the entire intersection. Existing traffic operation is summarized in Table 4-1. Full Vistro output is presented in the Technical Appendix.

Table 4.1: Existing Levels of Service

Intersection	Intersection				
	Control Type	Worst Movement	Control Delay (sec/veh)	Level of Service*	95th Percentile Queue Length (ft.)
A.M. Peak Hour					
Harvard & University	Signalized	NB Thru	18.7	LOS-B	98
Walnut & University	Signalized	WB Right	21.5	LOS-C	88
Harvard & Delaware	Signalized	NB Thru	24.1	LOS-C	223
Walnut & Delaware	All-Way Stop	WB Thru	8.4	LOS-A	20
Walnut & Lot AA Access	Two-Way Stop	EB Left	8.8	LOS-A	n.a.
Harvard & Lot AA Access	Two-Way Stop	WB Left	10.0	LOS-B	n.a
P.M. Peak Hour					
Harvard & University	Signalized	SB Thru	19.0	LOS-B	133
Walnut & University	Signalized	WB Right	19.5	LOS-B	80
Harvard & Delaware	Signalized	SB Thru	22.5	LOS-C	155
Walnut & Delaware	All-Way Stop	EB Thru	8.8	LOS-A	35
Walnut & Lot AA Access	Two-Way Stop	EB Left	9.0	LOS-A	n.a.
Harvard & Lot AA Access	Two-Way Stop	WB Left	10.2	LOS-B	n.a.

(Source: PTV Vistro software output, February 2016)

4.2 – PROPOSED TRIP GENERATION

Previous studies have highlighted reductions in vehicle-related trips that can be anticipated with private student housing apartments and with transit-oriented developments.

- In 2012, Spack Consulting found average trip generation rates for student housing apartments near the U of M were at 2.82 trips per unit for weekday, 0.13 trips per unit for a.m. and 0.24 trips per unit for p.m. peaks.[5]
- TRB's Transit Cooperative Research Program (TCRP) Report 128 "Effects of TOD on Housing, Parking and Travel" found trip generation rates for TOD housing were 3.55

[5] "Trip Generation Study – Private Student Housing Apartments, Spack Consulting, St. Louis Park, MN, April 12, 2012.

trips per unit for weekday, 0.28 trips per unit for a.m. and 0.39 trips per unit for p.m. peak hours.[6]

- These are compared to 6.65 trips per unit for weekday, 0.51 trips per unit for a.m. and 0.62 trips per unit for p.m. peaks, as listed in ITE Trip Generation Manual, 9th Edition.[7]
- When traffic was counted for this study at the Lot AA access onto Walnut Street, traffic was also counted at the nearby parking ramp access from The Station on Washington Apartments. Similarly to 600 Washington Avenue SE, The Station houses 97 apartment units built above a ground level of retail. In the p.m. peak hour, a mere six (6) vehicles were counted at The Station's parking ramp access -- four (4) vehicles entering and two (2) exiting their parking ramp. This compares with 71 trips projected by using standard ITE rates for Apartments only – 46 trips entering and 25 trips exiting.

The Developer is marketing this development as providing, "…a unique housing opportunity to a currently unserved population who desire to live in a TOD development that is walkable to campus activities including: education, arts, research, athletics, restaurants and retail." Because so many residents will be walking, biking or using transit, reducing the modal split goals to 20% auto, 40% walk/bike and 40% transit (as listed in Table 4-2) is more realistic for this development than strict use of either the Spack ratios or the TCRP report's ratios.

Table 4-2: Modal Split Goals

Mode Split	Goal
Auto	20%
Transit	40%
Bike/Walk	40%

The Developer has established modal shift goals that reflect the reduction in single occupancy vehicle trips and the reliance on other modes (e.g., transit, biking and walking) to provide transportation in the University area. There are a high number of students, faculty and staff who live close-by and choose to walk or bike to class or to work. Also, there is a large ridership on bus and LRT routes that embarks or disembarks at the University.

In light of these goals, the City agreed that the resulting trip generation volumes for vehicular traffic may be reduced by 80%. Table 4-3 illustrates the resulting trip generation for the site. Nevertheless, the City stressed that it will be particularly important that the TDMP includes a commitment to resident surveys and audits. And if the goals are not met, the TDMP should show commitment to ongoing mitigations or alternatives strategies that

[6] "Effects of TOD on Housing, Parking and Travel", TCRP Report 128, Transportation Research Board, sponsored by FHWA, Washington DC, 2008.
[7] Trip Generation Manual, Ninth Edition, Institute of Transportation Engineers, Washington DC, 2012.

will be employed in the future to address the situation. This commitment has been included in the TDM strategies found in Section 5.0 of this report.

To determine traffic impacts of a land use, traffic engineers estimate trip generation using the Institute of Transportation Engineers' (ITE's) Trip Generation Manual, Ninth Edition.

Table 4.3: Vehicular Trip Generation Estimates Assuming Modal Split

Land Use (According to Site Plan)	Size	Unit	ITE Land Use	ITE Land Use Code	Net New Trip Generation Estimates				
					Daily	AM Peak Hour		PM Peak Hour	
						In	Out	In	Out
Apartments	450	Units	Apartment	220	570	9	36	34	19
Retail	12.5	KSF	Shopping Center	820	352	5	3	14	15
TOTAL					922	54		83	

(Source: Westwood, March 21, 2016)

Westwood analyzed the Build Condition for the 600 Washington Avenue SE development. The anticipated completion of the development is 2018. Two time frames were analyzed – Short-term (2019 Build) representing the year after full build-out, and Long-term (2035 Build) representing twenty years hence.

Traffic was distributed through the study area using the same traffic pattern evidenced today. It is noted that Washington Avenue SE operates today as a pedestrian/bicycle/ transit only facility and that side street traffic can cross Washington, but vehicular traffic cannot turn onto or off of Washington at Harvard. (Note: Traffic on Walnut can turn onto eastbound University, but cannot turn westbound. Similarly, traffic on westbound University must turn either northbound or southbound onto Walnut, but cannot proceed westbound on University past Walnut.) North/south traffic movements on Harvard and Walnut streets are interrupted by METRO Green Line operation, which pre-empts the side streets signal operation and stops vehicular and pedestrian traffic while the trains enter or exit East Bank Station.

Further, Lot AA extends from Harvard Street SE along the south side of The Stations apartment building to Walnut Street. The extension of Lot AA between The Station apartment building and the Minnesota Health Patient and Visitor Parking Ramp is signed as one-way only eastbound. In the future condition, the driveway onto Harvard Street SE will provide two-way access for service and loading, as well to provide access to lower level church parking. The driveway onto Walnut Street SE will be two-way access to and from the upper level residential parking.

As shown in Tables 4-4 and 4-5, the results of the traffic operations analysis indicates that the access and the adjacent intersections will operate at acceptable levels of service for the 2019 and 2035 Build conditions respectively. Briefly, the operational analysis from that study indicates that the street intersections and the proposed access intersections will operate at LOS-C or better.

Table 4.4: 2019 BUILD Levels of Service

Intersection	Intersection				
	Control Type	Worst Movement	Control Delay (sec/veh)	Level of Service*	95th Percentile Queue Length (ft.)
A.M. Peak Hour					
Harvard & University	Signalized	NB Thru	18.7	LOS-B	100
Walnut & University	Signalized	WB Right	21.2	LOS-C	90
Harvard & Delaware	Signalized	NB Thru	24.3	LOS-C	225
Walnut & Delaware	All-Way Stop	WB Thru	8.6	LOS-A	25
Walnut & Lot AA Access	Two-Way Stop	EB Left	9.0	LOS-A	n.a.
Harvard & Lot AA Access	Two-Way Stop	WB Left	9.9	LOS-A	n.a
P.M. Peak Hour					
Harvard & University	Signalized	SB Thru	19.1	LOS-B	135
Walnut & University	Signalized	WB Right	19.5	LOS-B	90
Harvard & Delaware	Signalized	SB Thru	22.7	LOS-C	160
Walnut & Delaware	All-Way Stop	EB Thru	9.1	LOS-A	40
Walnut & Lot AA Access	Two-Way Stop	EB Left	9.5	LOS-A	n.a.
Harvard & Lot AA Access	Two-Way Stop	WB Left	10.3	LOS-B	n.a.

(Source: PTV Vistro software output, February 2016)

The Washington Avenue Transit/Bike/Pedestrian Mall impacts the normal signal operation at the intersections of Washington Avenue at Harvard Street and at Walnut Street. The transit preemption may hold side-street traffic as long as three minutes while the METRO Green Line and buses pass. Further, heavy pedestrian movements through the intersections can increase side-street vehicular delay, as well.

Lane group delay and 95th percentile queue lengths will be at or better levels than were recorded for existing conditions. There are times when the through street traffic will block

the access driveways to and from the 600 Washington Avenue SE development, but those times are brief and are common among many driveways and parking ramp accesses in the University area.

Table 4.5: 2035 BUILD Levels of Service

Intersection	Intersection				
	Control Type	Worst Movement	Control Delay (sec/veh)	Level of Service*	95th Percentile Queue Length (ft.)
A.M. Peak Hour					
Harvard & University	Signalized	SB Thru	18.9	LOS-B	105
Walnut & University	Signalized	WB Right	21.3	LOS-C	95
Harvard & Delaware	Signalized	SB Thru	24.8	LOS-C	150
Walnut & Delaware	All-Way Stop	EB Thru	8.8	LOS-A	25
Walnut & Lot AA Access	Two-Way Stop	EB Left	9.0	LOS-A	5
Harvard & Lot AA Access	Two-Way Stop	WB Left	10.1	LOS-B	n.a.
P.M. Peak Hour					
Harvard & University	Signalized	SB Thru	19.3	LOS-B	145
Walnut & University	Signalized	WB Right	19.6	LOS-B	90
Harvard & Delaware	Signalized	SB Thru	23.0	LOS-C	180
Walnut & Delaware	All-Way Stop	EB Thru	9.4	LOS-A	30
Walnut & Lot AA Access	Two-Way Stop	EB Left	9.5	LOS-A	5
Harvard & Lot AA Access	Two-Way Stop	WB Left	10.4	LOS-B	n.a.

(Source: PTV Vistro software output, February 2016)

Regarding the modeling of these future conditions, the City of Minneapolis maintains a policy to retime signals on a regular basis. Thus, signal timings were optimized to reflect the best possible traffic operation at the signalized intersections. These timings did not change significantly from the existing timings. Full traffic performance and queuing results appear in the Technical Appendix of this report.

5.0 – TRAVEL DEMAND MANAGEMENT STRATEGIES

5.1 – CITY OF MINNEAPOLIS TRANSPORTATION GOALS

The City of Minneapolis has developed a Ten-Year Transportation Action Plan that provides a vision of the future that states, "Minneapolis will build, maintain and enhance access to multi-modal transportation options for residents and business through a balanced system of transportation modes that supports the city's land use vision, reduces adverse transportation impacts, decreases the overall dependency on automobiles, and reflects the city's pivotal role as the center of the regional transportation network." – The Minneapolis Plan for Sustainable Growth, (2009).

From this has emerged the City's "Transportation Vision for Minneapolis":

- Transportation is important to the economic viability of the city, the region and the state. *Access Minneapolis* will lay the transportation groundwork for achieving the long-range vision of Minneapolis as a vital and thriving metropolitan urban center that is a great place to live, work, play, visit and conduct business.

- The city must remain livable and walkable to maintain its regional and national competitiveness. In most cases, it is not feasible or desirable to increase the curb-to-curb width of roadways in the city. However, there are many opportunities for improving the operational capacity of the transportation system without street widening. *Access Minneapolis* will result in a city that is livable and walkable while optimizing the operational capacity of the transportation system.

- *Access Minneapolis* will result in a citywide transportation system that is multi-modal (pedestrian, bicycle, transit, automobile, freight), providing good transportation choices to people, including people with disabilities.

- *Access Minneapolis* will result in a citywide transportation system that serves anticipated employment and residential growth and optimizes access to destinations by all modes (pedestrian, bicycle, transit, automobile, freight) throughout the city, between neighborhoods, to/from and within downtown.

- Although all modes of transportation are important, transit is critical for maximizing the people carrying capacity of the transportation system. *Access Minneapolis* will result in a transit system that operates efficiently and effectively in downtown and throughout the city. Transit will become the mode of choice for Minneapolis residents, workers and visitors.

5.2 – CITY OF MINNEAPOLIS TRANSPORTATION POLICY POINTS

The following policy points for transportation are included in Chapter 2 of the Minneapolis Plan for Sustainable Growth[8]:

Policy 1: Encourage growth and reinvestment by sustaining the development of a multi-modal transportation system.

Policy 2: Support successful streets and communities by balancing the needs of all modes of transportation with land use policy.

Policy 3: Encourage walking throughout the city by ensuring that routes are safe, comfortable, pleasant, and accessible.

Policy 4: Make transit a more attractive option for both new and existing riders.

Policy 5: Ensure that bicycling throughout the city is safe, comfortable and pleasant.

Policy 6: Manage the role and impact of automobiles in a multi-modal transportation system.

Policy 7: Ensure that freight movement and facilities throughout the city meet the needs of the local and regional economy while remaining sensitive to impacts on surrounding land uses.

Policy 8: Balance the demand for parking with objectives for improving the environment for transit, walking and bicycling, while supporting the city's business community.

Policy 9: Promote reliable funding and pricing strategies to manage transportation demand and improve alternative modes.

Policy 10: Support the development of a multi-modal Downtown transportation system that encourages an increasingly dense and vibrant regional center.

Policy 11: Minneapolis recognizes the economic value of Minneapolis-St. Paul International Airport and encourages its healthy competition to reach global markets in an environmentally responsible manner.

[8] http://www.ci.minneapolis.mn.us/cped/docs/02_Transportation_100209.pdf

5.3 – GOAL OF THE TRAVEL DEMAND MANAGEMENT PLAN

To succeed, this Travel Demand Management (TDM) plan must assist the City of Minneapolis to achieve their transportation goals. Based on previous TDM Plans in the area and the types of proposed land uses, the modal split goals for the project have been identified by the developer, as shown in Table 4-2.

The owners and/or TDM Liaison will work to achieve a mode share goal percentage of 80% non-single-occupant-vehicles for the residential development, meeting and exceeding the goals of the City of Minneapolis.

5.4 – SPECIFIC TRAVEL DEMAND MANAGEMENT STRATEGIES

This section outlines specific Travel Demand Management strategies to be implemented by the owner/end user/property manager/etc. of this site. The strategies detail the responsibilities of the site's responsible party in addressing the issues regarding transportation cited above. The Developer, or its successors, by accepting the responsibility of implementing the items below, desire to help Minneapolis to achieve their goals of enhancing the local transportation system. Implementation of the items noted will help to encourage use of alternate modes of travel, enhance pedestrian friendliness, and achieve a balance in the needs of all users of the transportation system. The Developer, or its successors, specifically commits to the implementation of the following measures:

<u>General</u>

1. The owners and/or property managers of the development will appoint a designated TDM Liaison to coordinate the various TDM strategies that require ongoing attention. The responsibilities of the TDM Liaison would include upkeep of transit information and other communications, carpool program coordination, and administration of a shared car parking space.

2. The owners and/or property managers of the development will provide transit information in the apartment lobby for residents and guests of the project. Information would include items such as transit schedules, Metro Transit commuter/carpool program information (Rideshare and the Guaranteed Ride Home), NiceRide MN and/or bicycle/pedestrian commuter information or maps. The developer is considering the installation of Real Time Transit Display Boards in the residential lobby.

3. The owners and/or property managers of the development will assemble and disseminate a move-in package for all new residents. The move-in package will include all the pertinent information available at no cost on travel information such as parking, alternate modes of travel, bus routes, NiceRide MN, car sharing options and bike routes.

4. The owners and/or property managers of the development will provide each resident a link to the University of Minnesota's Parking and Transportation Services webpage , http://pts.umn.edu/ , that provides a host of links to transit, biking, LRT, rideshare and walking opportunities in the University area.

Transit/Carpool

1. The owners/property managers commit to providing information on shared car services that are accessible to the public. The "HOURCAR" program, detailed at www.hourcar.org , is an example of such a program that is available in the University area. Other shared vehicle providers, such as Car2Go (www.car2go.com/en/minneapolis/) Enterprise CarShare (https://www.enterprisecarshare.com/us/en/home.html) and Zipcar (www.zipcar.com/minneapolis/find-cars) offer vehicles at sites throughout Minneapolis.

2. The property manager/TDM liaison for the apartment building will manage and disseminate shared-car information to the residents and employees. The Developer understands that such a program is valuable to those residents who may not have a personal vehicle, and who from time to time need to use a personal vehicle.

3. The owners and/or property managers of the development will distribute information on Mn/DOT's real-time traveler information program: 5-1-1 or www.511mn.org .

4. Residents and employees will be informed of Met Transit's "Go-To Card" passes for hassle-free transit. The link www.metrotransit.org/passes-go-to-cards.aspx will be provided to residents at move-in, or upon orientation for new hires.

Bicycles

1. The owners/property managers commit to provide a total of 644 bicycle parking spaces for residents, with at least 580 long-term bicycle stalls to be provided within the building. Subject to approval by Public Works, the owners/property managers commit to providing 18 bicycle parking spaces on the public sidewalk to meet and exceed the 3-space requirement for commercial uses. This bike parking commitment is broken down by land use and is shown on Table 3-4 of this report.

2. The owners/property managers will actively promote biking as a mode of transportation to and from the site by providing outdoor bicycle parking spaces for patrons and indoor bicycle storage spaces for the residents.

3. The owners/property managers will provide maps and information to direct riders through the area and to adjacent bicycle trails, as well as to bike repair services close-by.

4. The owners/property managers will promote Nice Ride MN to employees, residents and visitors in the development site. NiceRide MN Stations exist within four blocks of the development, as shown on Figure 2-2.

Deliveries

1. The owners/property managers will develop and maintain a policy that encourages truck and service deliveries to occur outside of peak traffic times.

Parking

1. Signage will be provided to alert drivers that loading and deliveries will access the site off of Harvard Street SE, while resident and guest parking will be accessed off of Walnut Street SE.

2. The owners/property managers will be using a parking access control and security system that will require proper credentials to be presented to gain entry into the parking garage. Credentials will be in the form of a proximity card or key fob for apartment residents. Guests will be provided access to the guest spots in the garage by either guest cards or by intercom. In the event someone mistakenly enters the driveway from Walnut Avenue SE and cannot turn around in the driveway, they will be able to use the intercom system to enter and turnaround in the garage.

3. The owners/property managers will apply a residential parking ratio that is less than one-to-one, as this site is taking advantage of nearby bus lines and the LRT stations that are within walking distance of the 600 Washington Avenue SE development site.

4. Residential Parking will not be free. Residents will not be required to lease parking, but those who chose to do so will have reserved spaces in the ramp. The owners/property managers will apply a parking fee that will be market rate for University area residential parking and will be a lease contract separate from apartment lease. Residential parking stalls will not be leased to any person other than a resident or tenant of the building.

5. The owners/property managers will meet the guest parking code requirement of 1 space per 50 dwelling units. Guests will check in with the front desk in order to park in these spaces and get an access fob for the parking garage.

6. Information regarding on-street parking and nearby public pay lots and ramps will be held by the apartment management office for dissemination to guests, employees and visitors.

7. The 45-50 parking spaces in the below-grade parking level will be leased by Grace Lutheran Evangelical Church for its use. The Church may sublease these parking spaces on a contract basis for use by others when not in use for Church purposes.

8. It is acknowledged that nearby parking meter hours, rates, etc., may change at any time at the discretion of the City of Minneapolis.

9. The developer or building owner or individual parking residents will not be allowed to create or join any existing or future Critical Parking Area.

Resident Surveys and TDMP Plan Status Reports

1. With the assistance of Commuter Connection, the owners/property managers shall conduct a baseline resident commuting survey within the first 6 months after 50% occupancy of the site. The owners/property managers will continue to conduct this survey every two years after that, for ten years or until the TDM Plan mode split goals are achieved.

2. If the modal shift goals of 20% vehicular traffic/40% transit/40% bike/pedestrians are not met, the Developer commits to ongoing mitigations or alternatives strategies that will be employed in the future to address the situation. These may include transit passes as part of move-in packets, and/or stationing of a shared vehicle on-site.

TRAVEL DEMAND MANAGEMENT PLAN
600 Washington Avenue SE Development
MINNEAPOLIS, MN

PLAN APPROVAL

Core Minneapolis LLC

By: _____Dated: _____

Marc Lifshin, Manager
Core Campus Management LLC
2234 W. North Avenue
Chicago, IL 60647

Minneapolis Community and Economic Development Department

By: _____Dated: _____

Steve Poor, CPED Development Services Director

Minneapolis Public Works Department

By: _____Dated: _____

Steve Mosing, Traffic Operations Engineer

TECHNICAL APPENDIX

- PTV Vistro Output
    - Existing Conditions
    - 2019 Build Conditions
    - 2035 Build Conditions

2016 Exisitng AM Peak

Scenario 5: Existing AM Peak Condition
2/22/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Washington Ave & Harvard St	Signalized	HCM 2010	NB Thru	0.128	18.7	B
2	Washington Ave & Walnut St	Signalized	HCM 2010	WB Right	0.130	21.5	C
3	Delaware St & Harvard St	Signalized	HCM 2010	NB Thru	0.285	24.1	C
4	Delaware St & Walnut St	All-way stop	HCM 2010	WB Thru		8.4	A
5	East Access & Walnut St	Two-way stop	HCM 2010	EB Left	0.003	8.8	A
6	West Access & Harvard St	Two-way stop	HCM 2010	WB Left	0.004	10.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

2016 Exisitng AM Peak

Scenario 5: Existing AM Peak Condition
2/22/2016

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Washington Ave & Harvard St	0	159	3	0	89	1	0	51	0	0	27	2	332

ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
2	Washington Ave & Walnut St	19	6	6	9	0	55	1	13	52	97	258

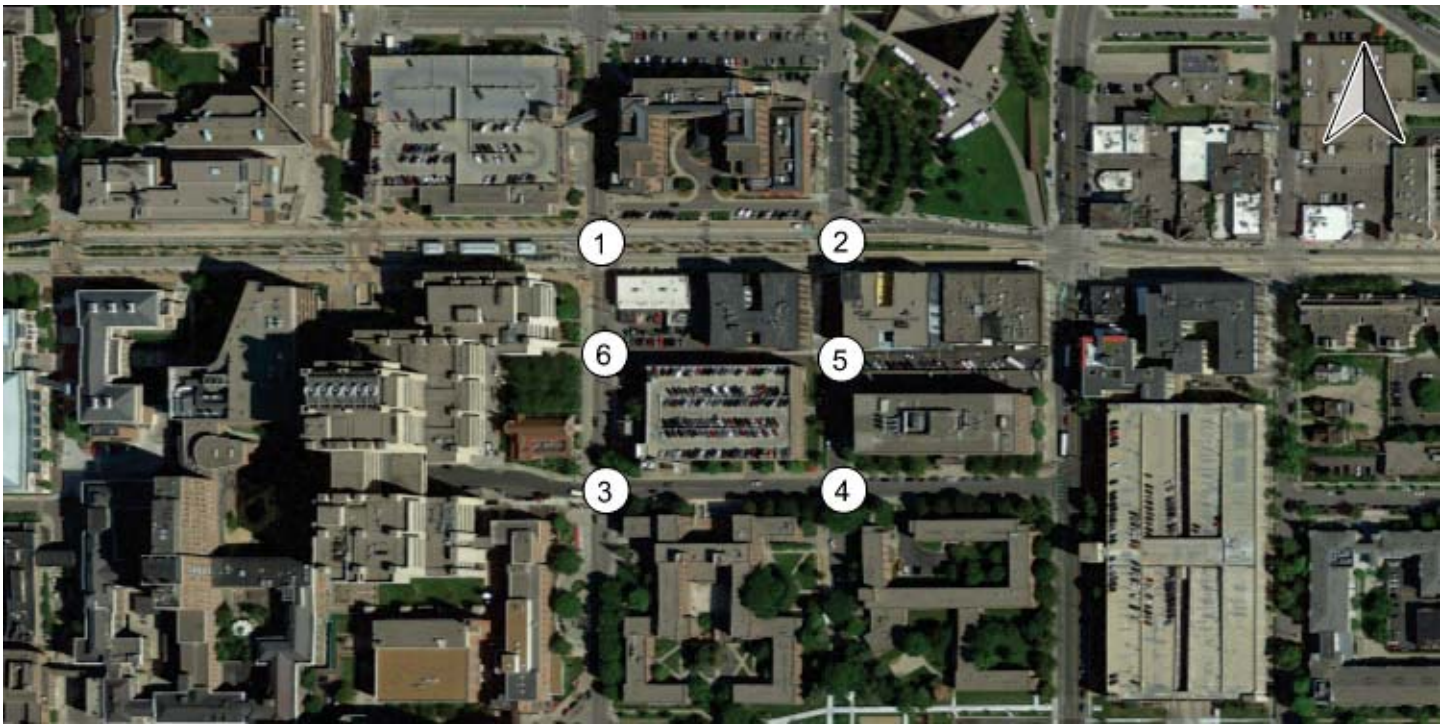
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Delaware St & Harvard St	48	151	61	13	54	14	7	75	13	37	62	20	555

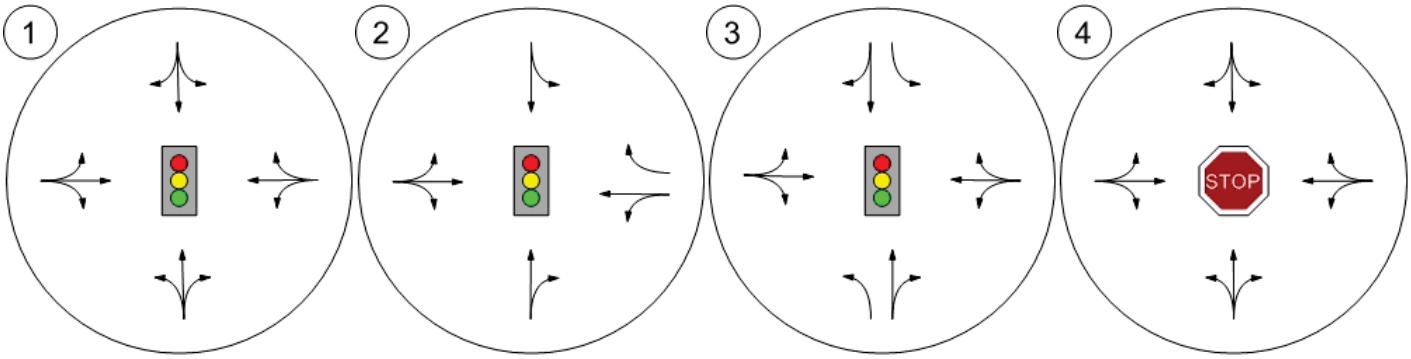
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Delaware St & Walnut St	4	1	4	16	0	24	8	167	5	4	197	11	441

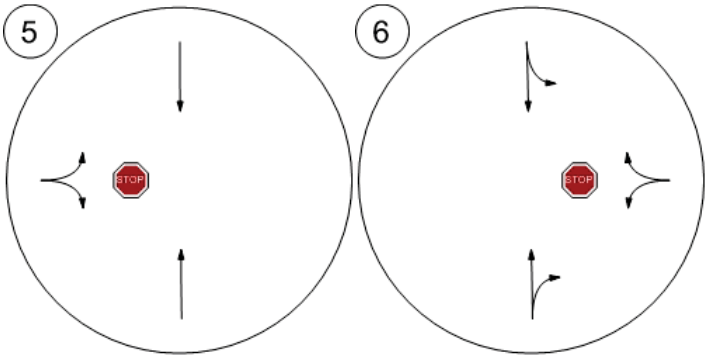
ID	Intersection Name	Northbound	Southbound	Eastbound		Total Volume
		Thru	Thru	Left	Right	
5	East Access & Walnut St	20	35	3	2	60

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
6	West Access & Harvard St	164	14	5	80	3	3	269

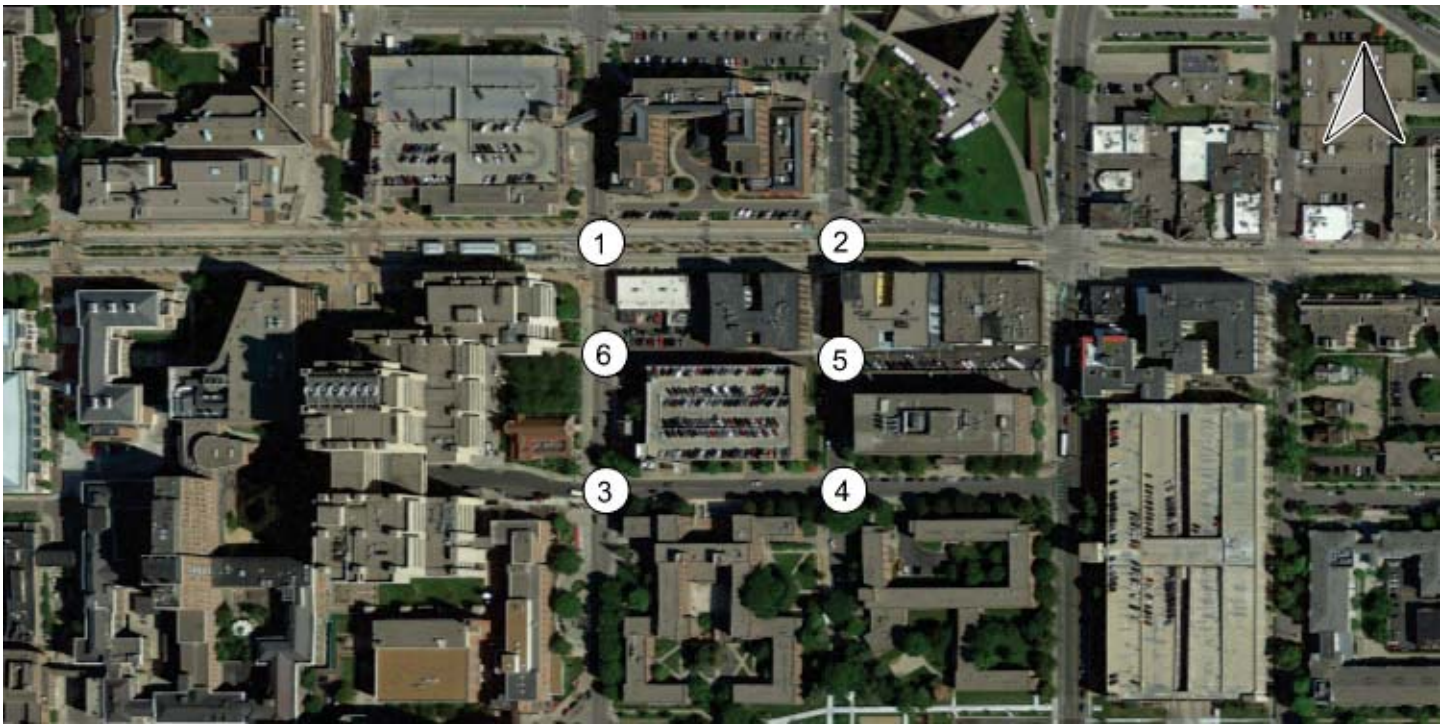
Lane Configuration and Traffic Control

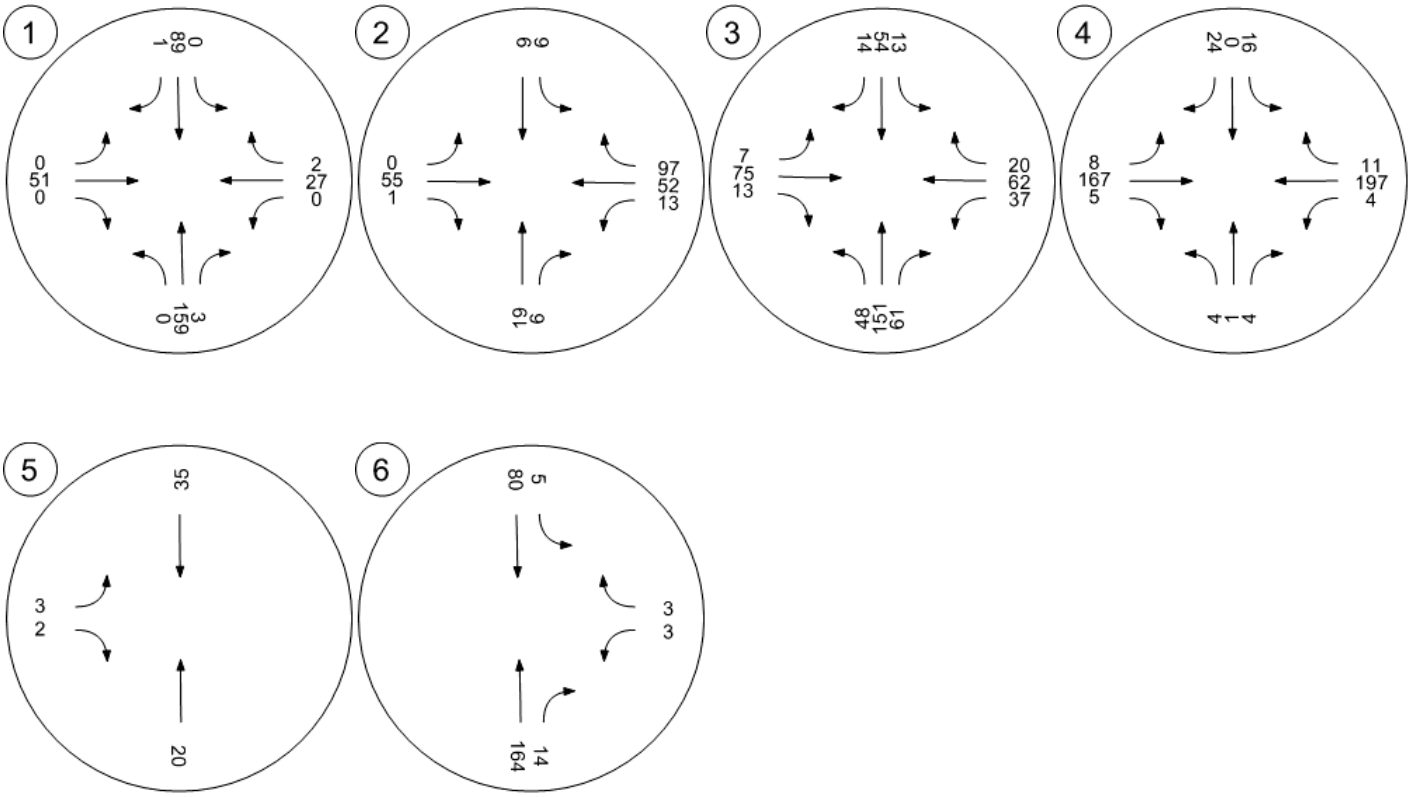




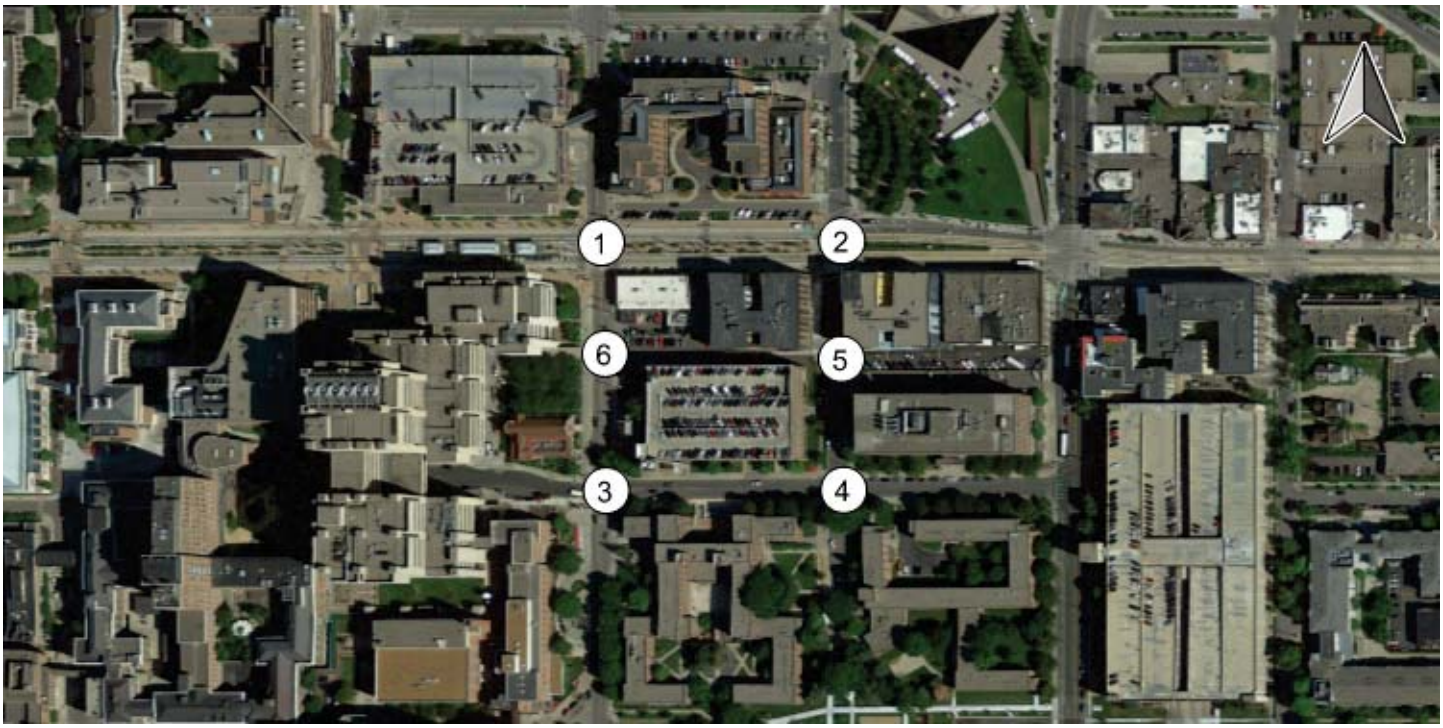


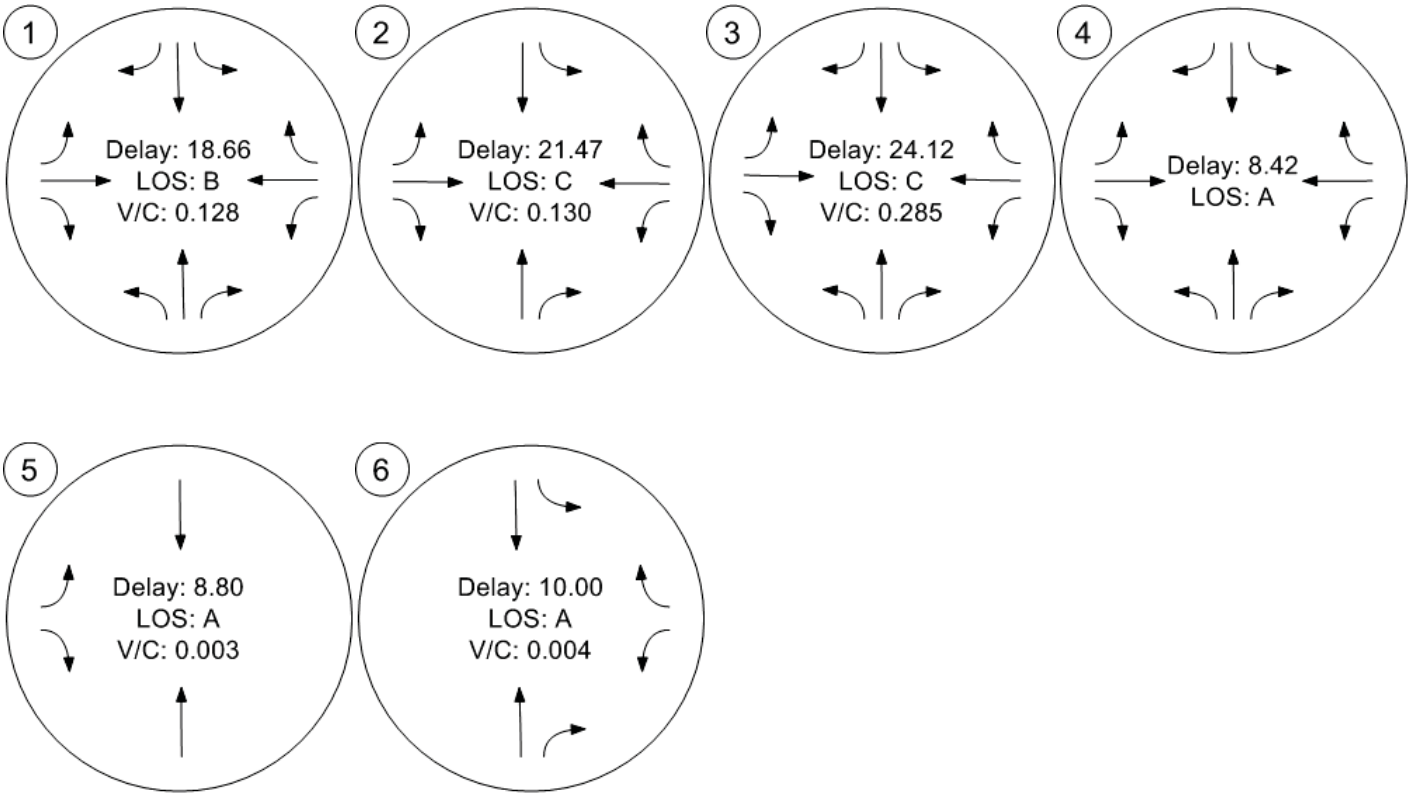
Traffic Volume - Base Volume



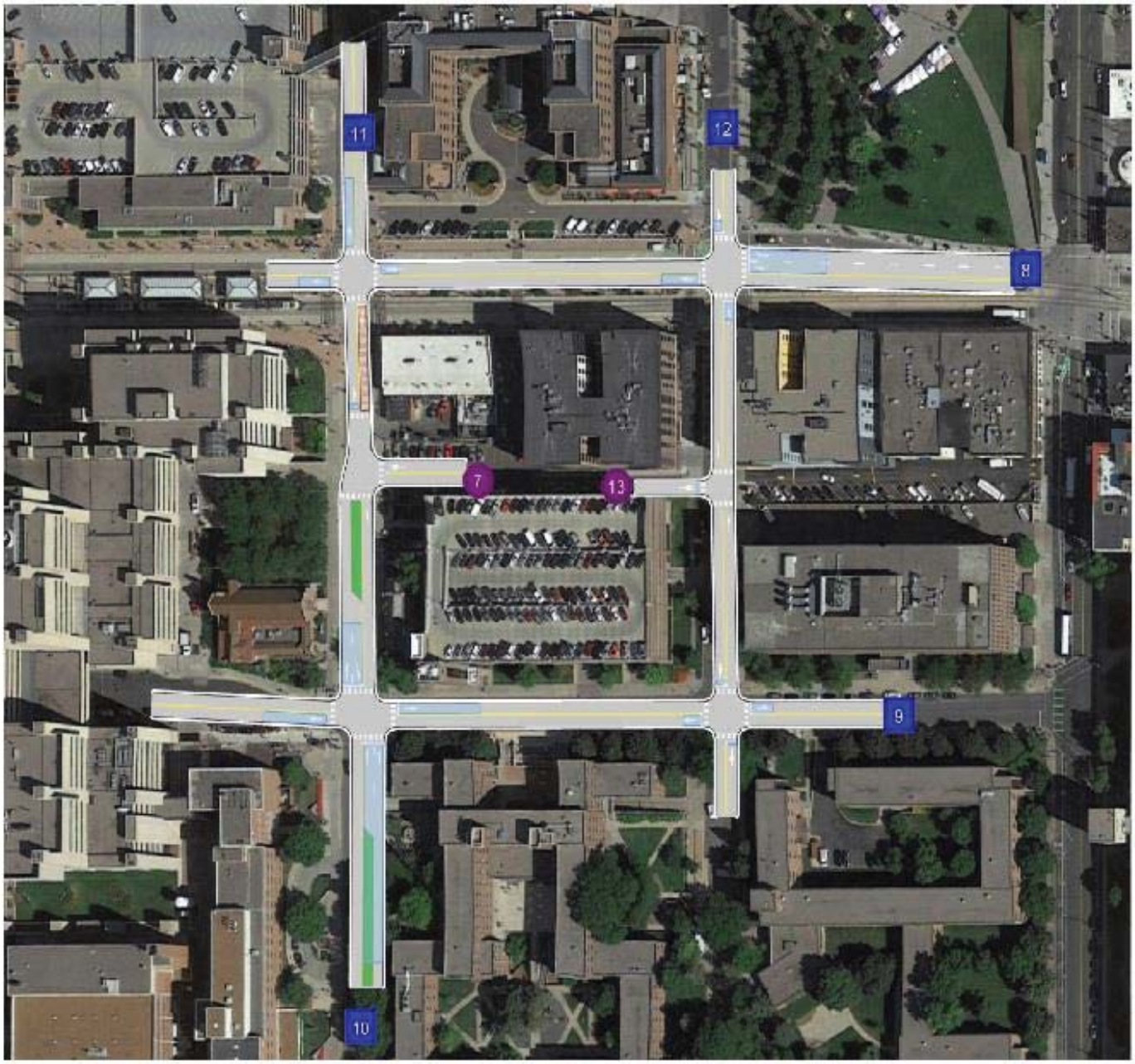


Traffic Conditions





Existing 95th Percentile Queue Lengths - A.M. Peak Hour



Red block indicates possible interferenfce with nearby intersection.

0 ft 100 ft

2016 Exisitng PM Peak

Scenario 3: Existing PM Peak Condition
2/17/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Washington Ave & Harvard St	Signalized	HCM 2010	SB Thru	0.168	19.0	B
2	Washington Ave & Walnut St	Signalized	HCM 2010	WB Right	0.106	19.5	B
3	Delaware St & Harvard St	Signalized	HCM 2010	SB Thru	0.217	22.5	C
4	Delaware St & Walnut St	All-way stop	HCM 2010	EB Thru		8.8	A
5	East Access & Walnut St	Two-way stop	HCM 2010	EB Left	0.009	9.0	A
6	West Access & Harvard St	Two-way stop	HCM 2010	WB Left	0.003	10.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

2016 Exisitng PM Peak

Scenario 3: Existing PM Peak Condition
2/17/2016

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Washington Ave & Harvard St	0	98	0	1	192	0	0	38	2	0	35	25	391

ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
2	Washington Ave & Walnut St	31	24	20	16	2	55	2	17	72	48	287

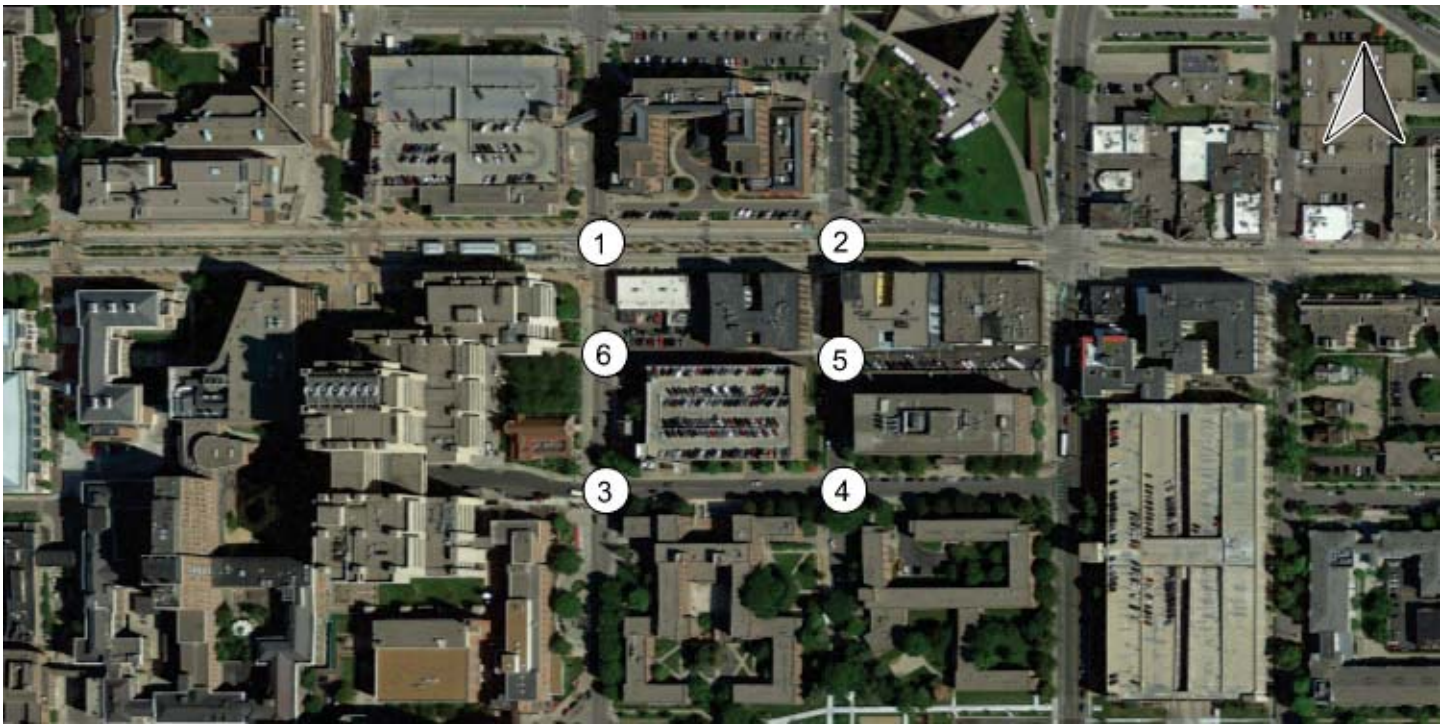
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Delaware St & Harvard St	40	77	62	19	156	11	9	89	42	54	68	17	644

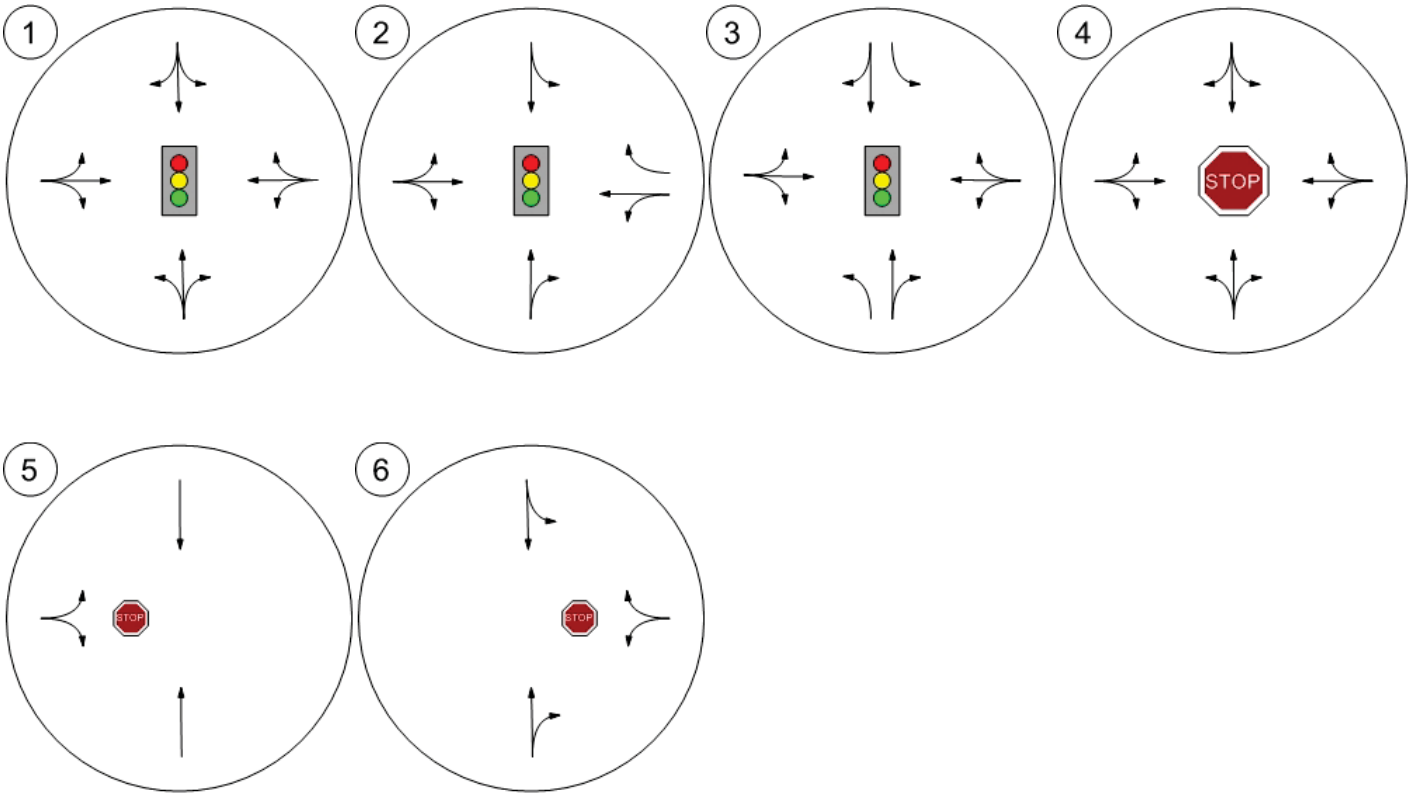
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Delaware St & Walnut St	2	3	20	51	1	29	13	220	4	18	130	28	519

ID	Intersection Name	Northbound	Southbound	Eastbound		Total Volume
		Thru	Thru	Left	Right	
5	East Access & Walnut St	44	35	8	6	93

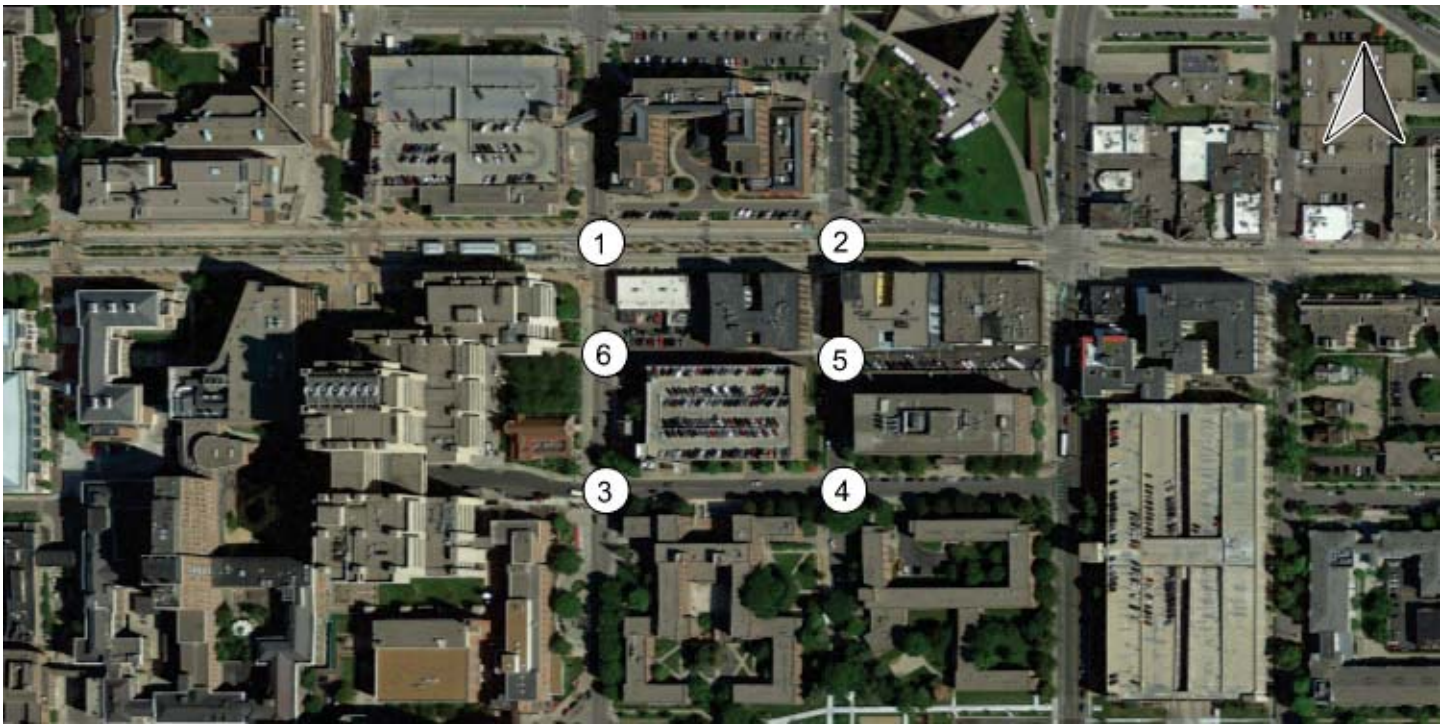
ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
6	West Access & Harvard St	97	6	4	190	2	4	303

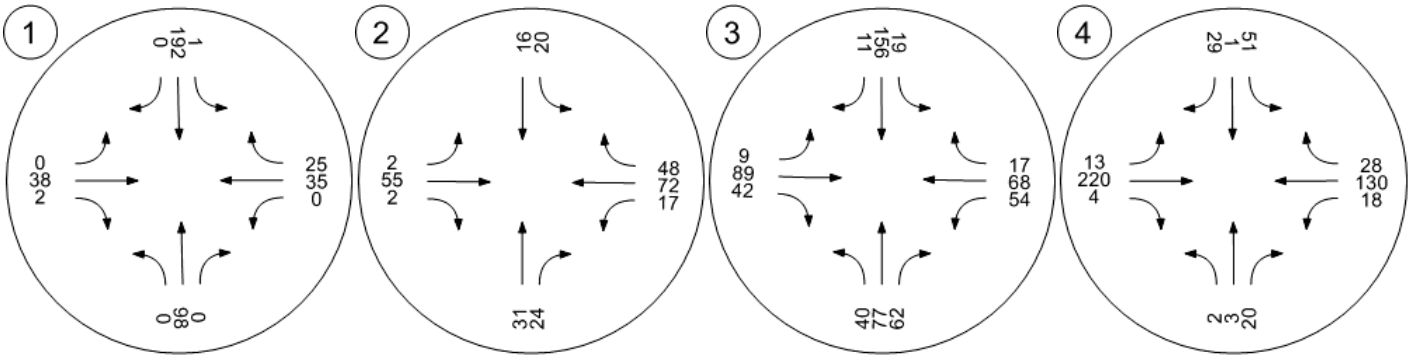
Lane Configuration and Traffic Control

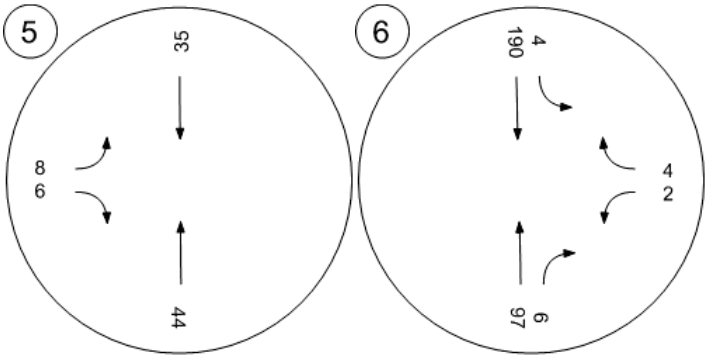




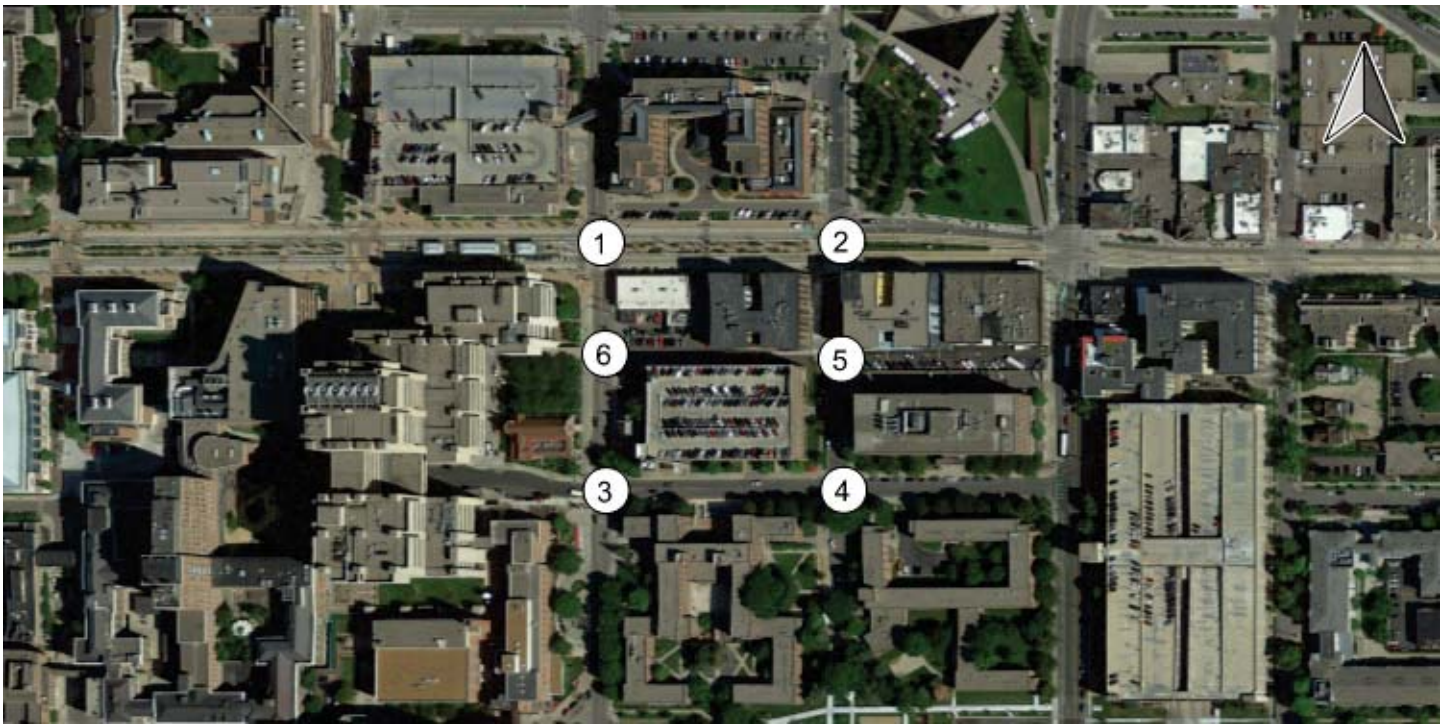
Traffic Volume - Base Volume

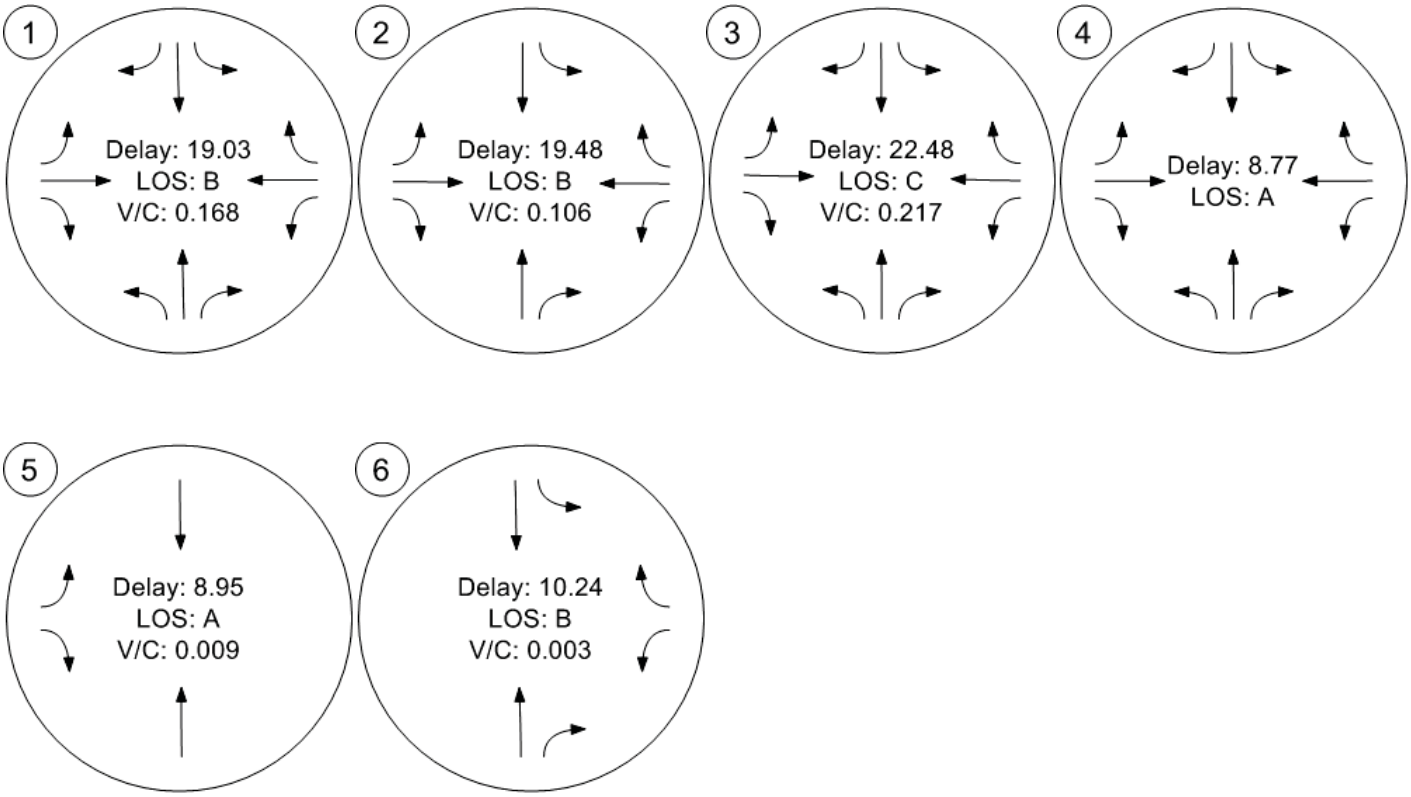




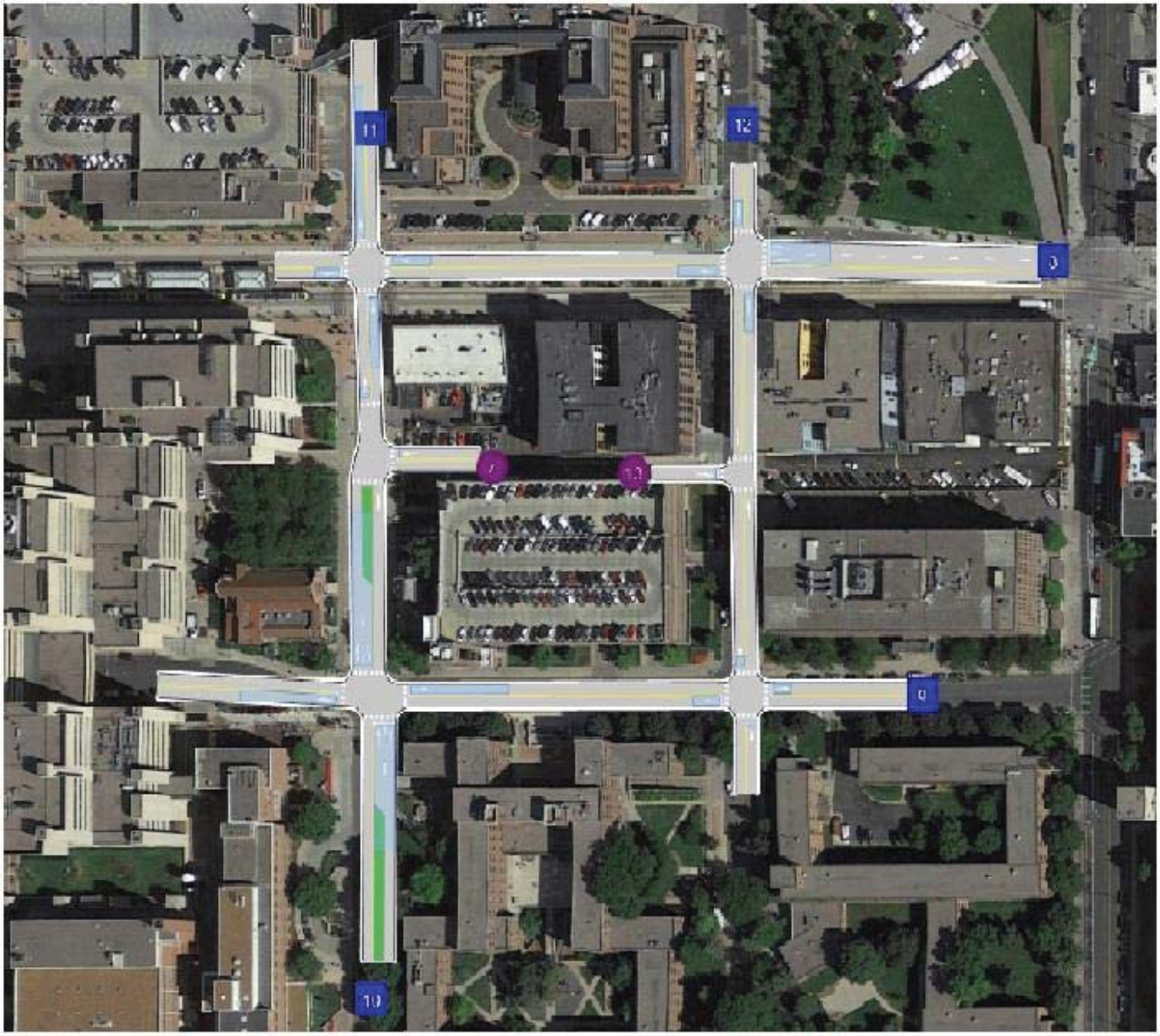


Traffic Conditions





Existing 95th Percentile Queue Lengths - P.M. Peak



Red block indicates possible interferenfce with nearby intersection.

0 ft 100 ft

2019 Build AM Peak

Scenario 6: 2019 AM Peak Condition
2/22/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Washington Ave & Harvard St	Signalized	HCM 2010	NB Thru	0.131	18.7	B
2	Washington Ave & Walnut St	Signalized	HCM 2010	WB Right	0.143	21.2	C
3	Delaware St & Harvard St	Signalized	HCM 2010	NB Thru	0.313	24.3	C
4	Delaware St & Walnut St	All-way stop	HCM 2010	WB Thru		8.6	A
5	East Access & Walnut St	Two-way stop	HCM 2010	EB Left	0.013	9.0	A
6	West Access & Harvard St	Two-way stop	HCM 2010	WB Left	0.007	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

2019 Build AM Peak

Scenario 6: 2019 AM Peak Condition
2/22/2016

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Washington Ave & Harvard St	0	164	3	0	92	1	0	52	0	0	28	2	342

ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
2	Washington Ave & Walnut St	25	14	6	9	0	56	1	17	53	99	280

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Delaware St & Harvard St	49	155	64	18	56	14	7	77	13	47	63	24	587

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Delaware St & Walnut St	4	1	4	29	0	36	13	172	5	4	202	14	484

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
5	East Access & Walnut St	6	22	37	3	12	24	104

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
6	West Access & Harvard St	169	3	0	83	5	0	260

2019 Build AM Peak

Scenario 6: 2019 AM Peak Condition
2/22/2016

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
7: Church Parking Lot Access	Chruch Parking			1.000	8.000	40.00	60.00	3	5	8	15.09
13: Apartment Parking Access	Apt Parking			1.000	45.000	20.00	80.00	9	36	45	84.91
					Added Trips Total			**12**	**41**	**53**	**100.00**

2019 Build AM Peak

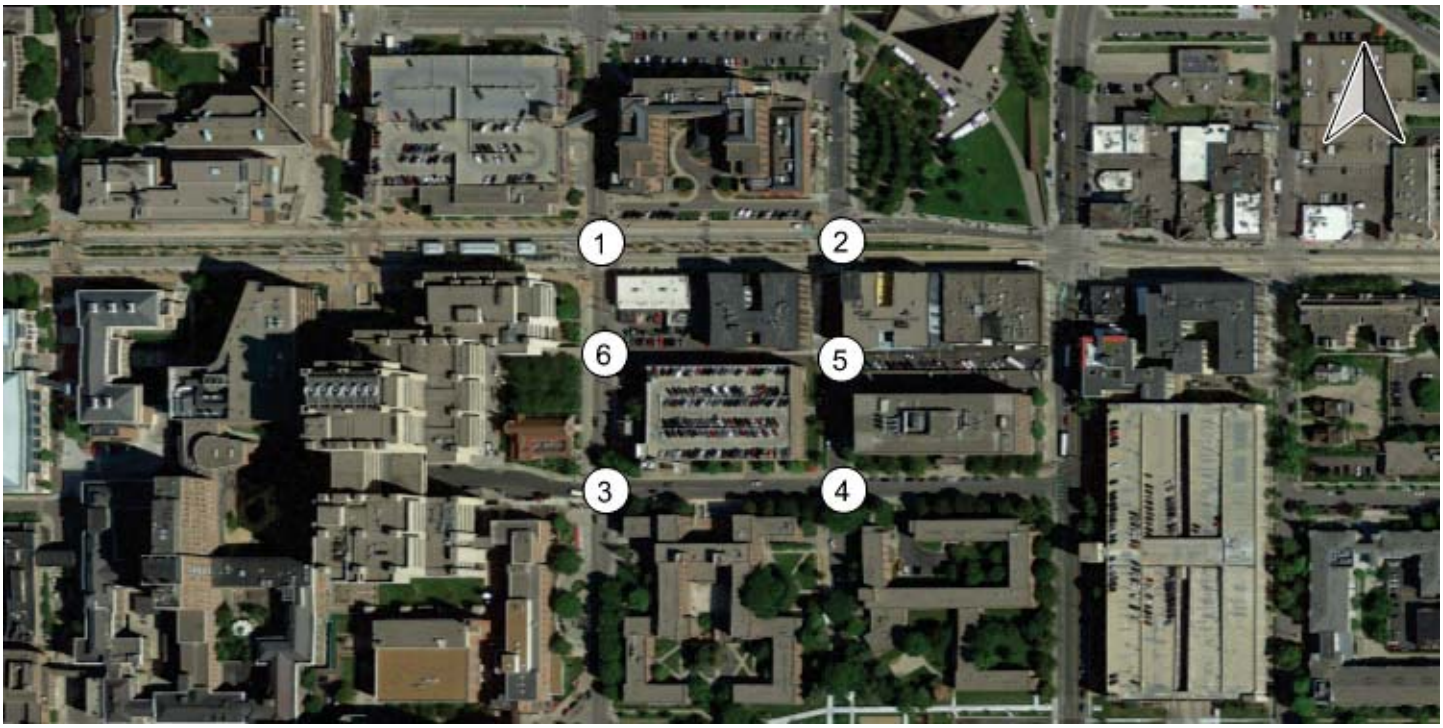
Scenario 6: 2019 AM Peak Condition
2/22/2016

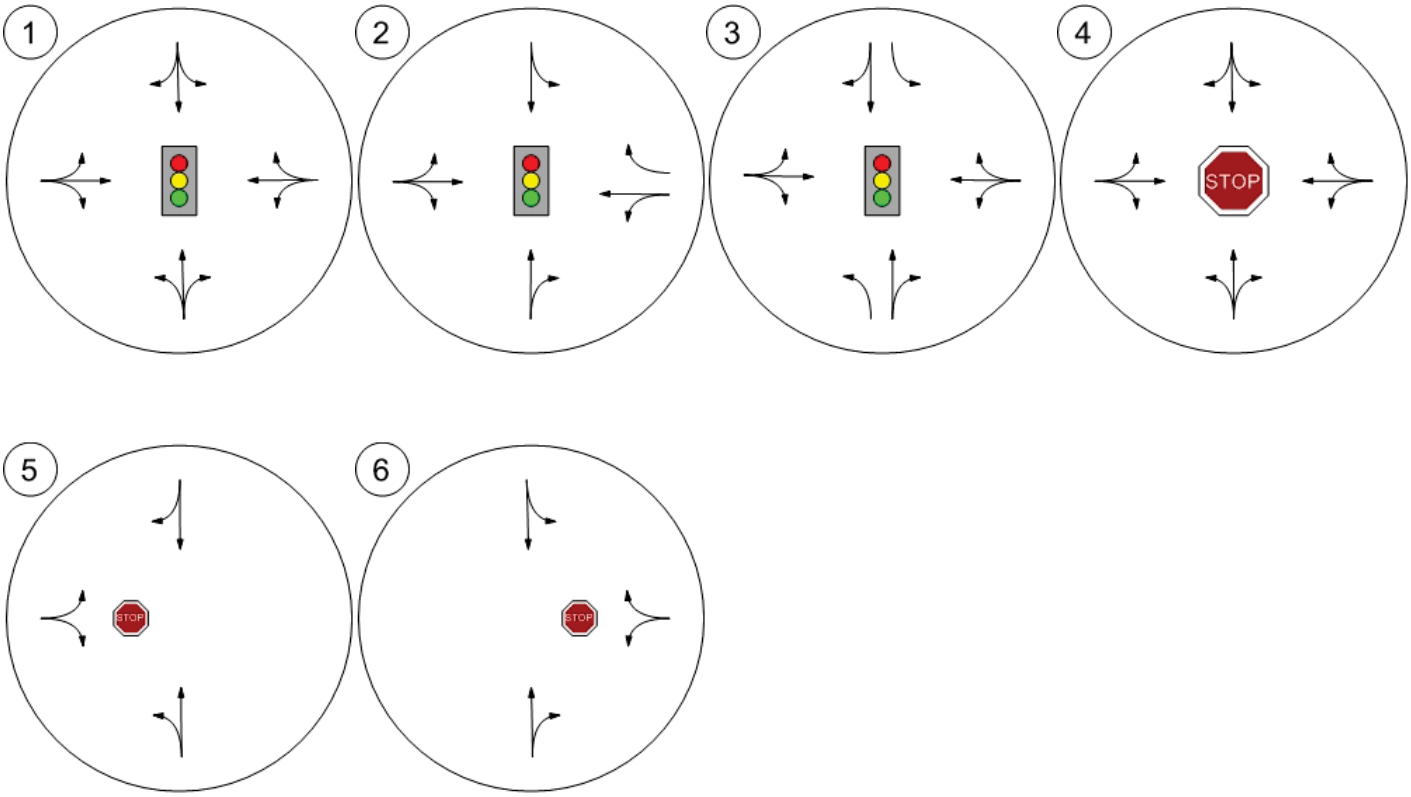
Trip Distribution summary

Zone / Gate	Zone 7: Church Parking Lot Access			
	To Church Parking Lot Access:		From Church Parking Lot Access:	
	Share %	Trips	Share %	Trips
13: Apartment Parking Access	0.00	0	0.00	0
8: Washington Ave	30.00	1	20.00	1
9: Delaware Ave	29.00	1	35.00	2
10: Harvard Ave	26.00	1	25.00	1
11: Harvard Ave	10.00	0	5.00	0
12: Walnut Ave	5.00	0	15.00	1
Total	**100.00**	**3**	**100.00**	**5**

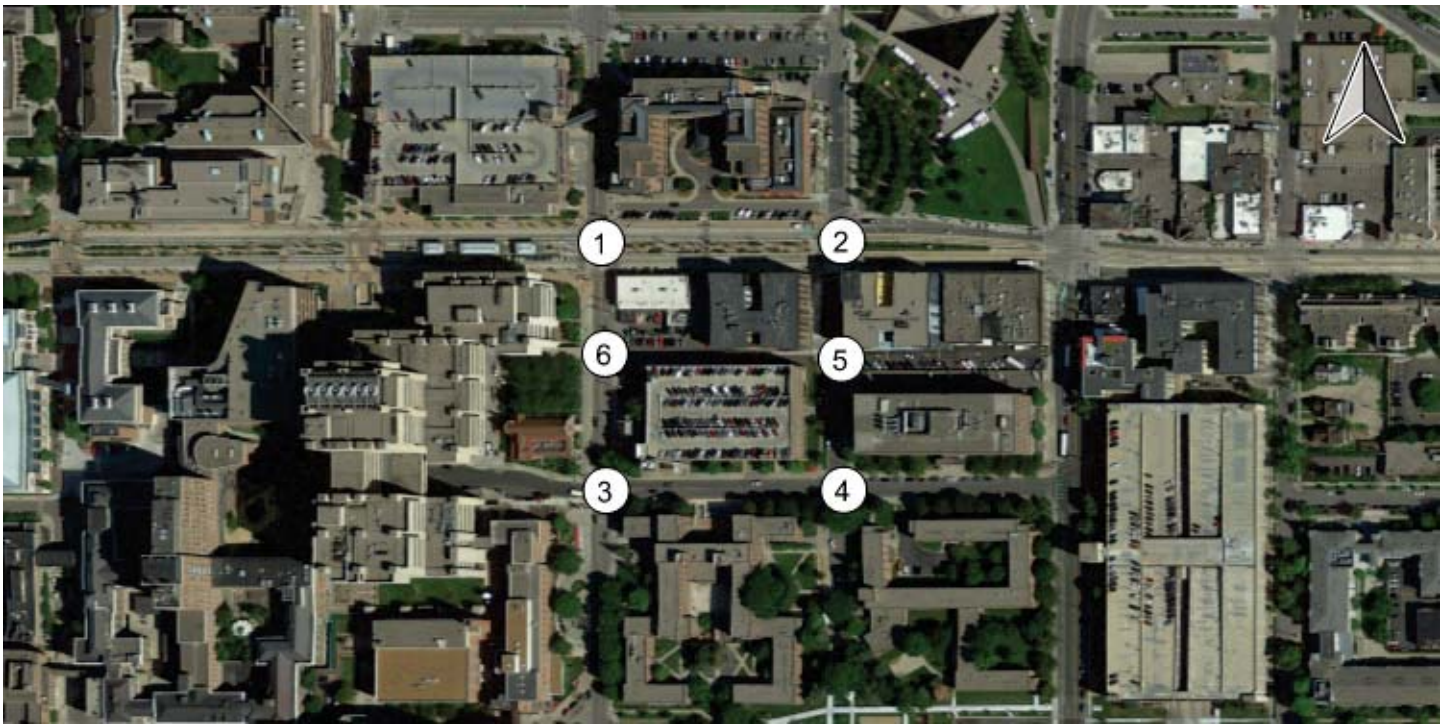
Zone / Gate	Zone 13: Apartment Parking Access			
	To Apartment Parking Access:		From Apartment Parking Access:	
	Share %	Trips	Share %	Trips
7: Church Parking Lot Access	0.00	0	0.00	0
8: Washington Ave	30.00	3	20.00	7
9: Delaware Ave	29.00	3	35.00	13
10: Harvard Ave	26.00	2	25.00	9
11: Harvard Ave	10.00	1	5.00	2
12: Walnut Ave	5.00	0	15.00	5
Total	**100.00**	**9**	**100.00**	**36**

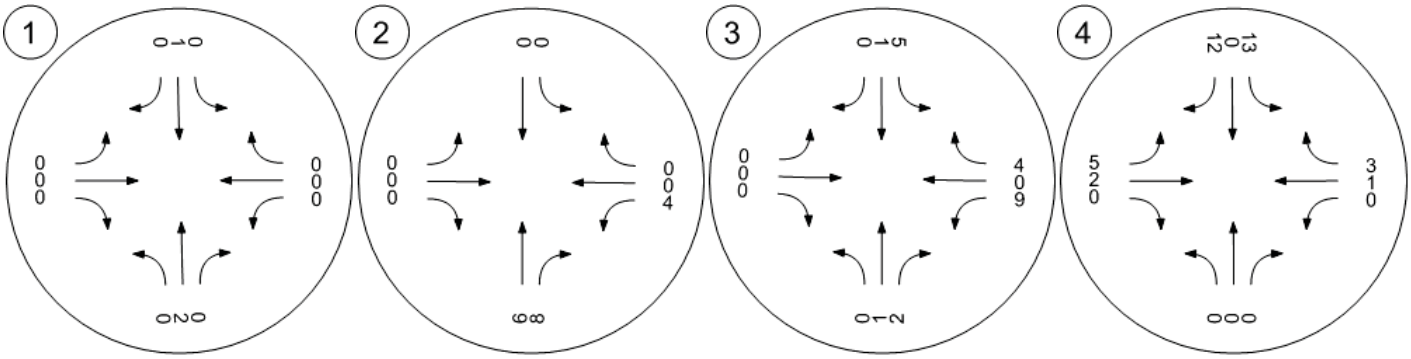
Lane Configuration and Traffic Control

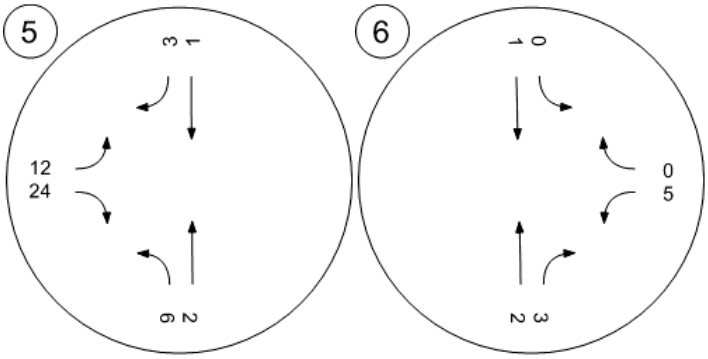




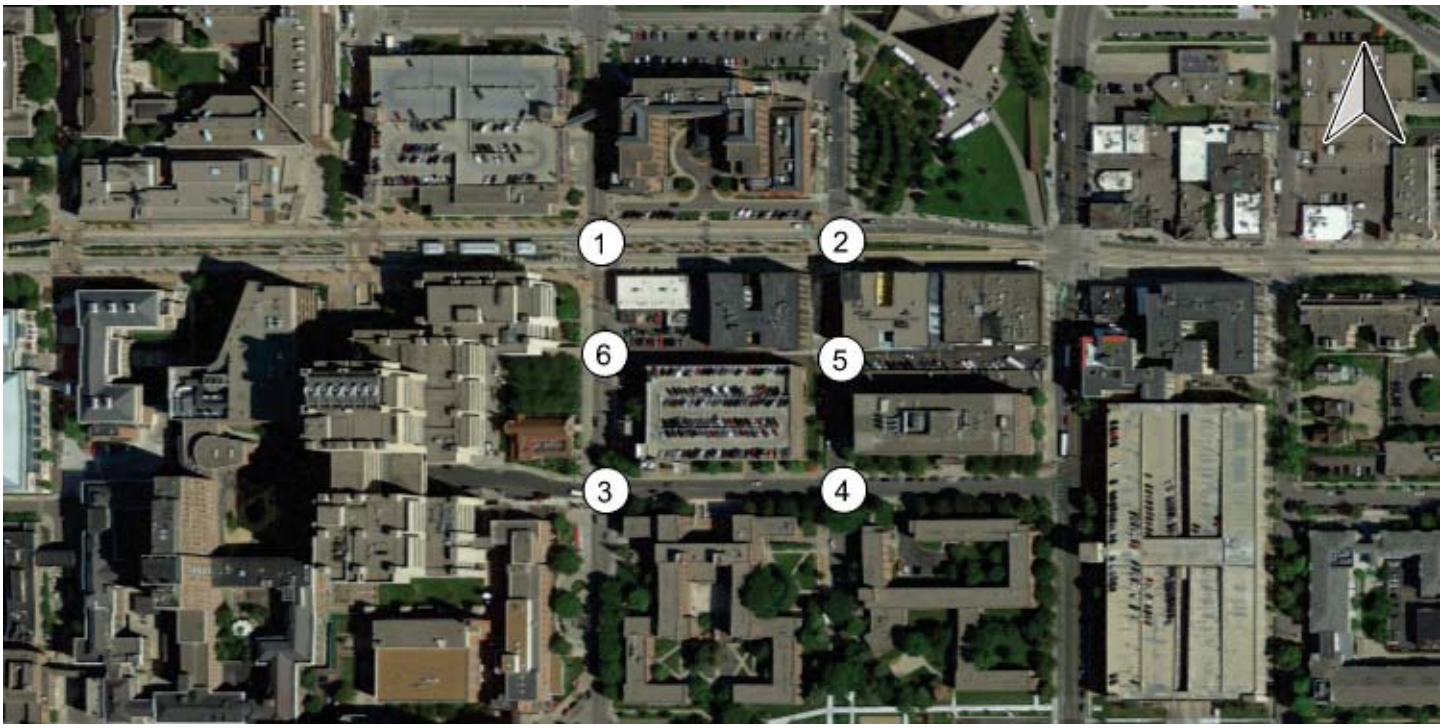
Traffic Volume - Net New Site Trips

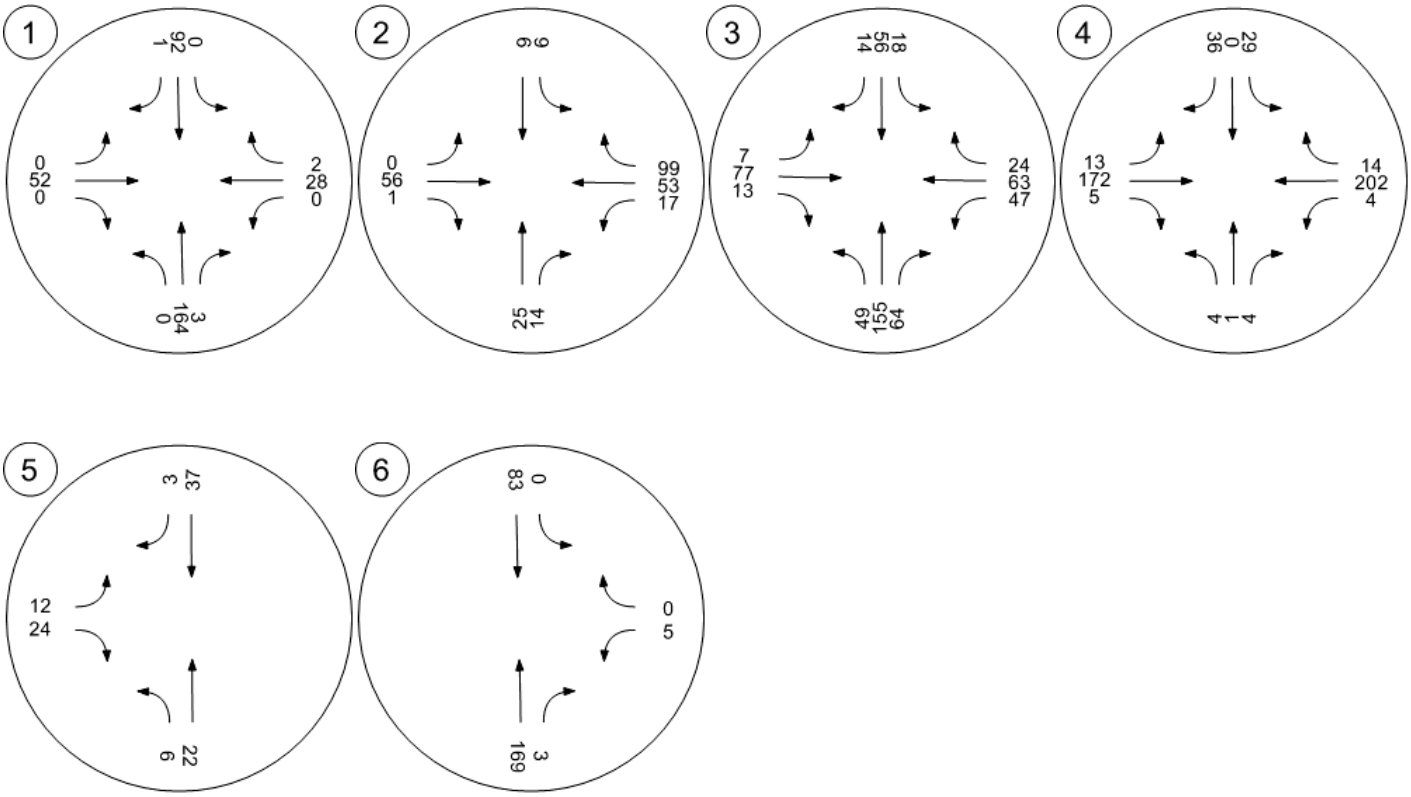




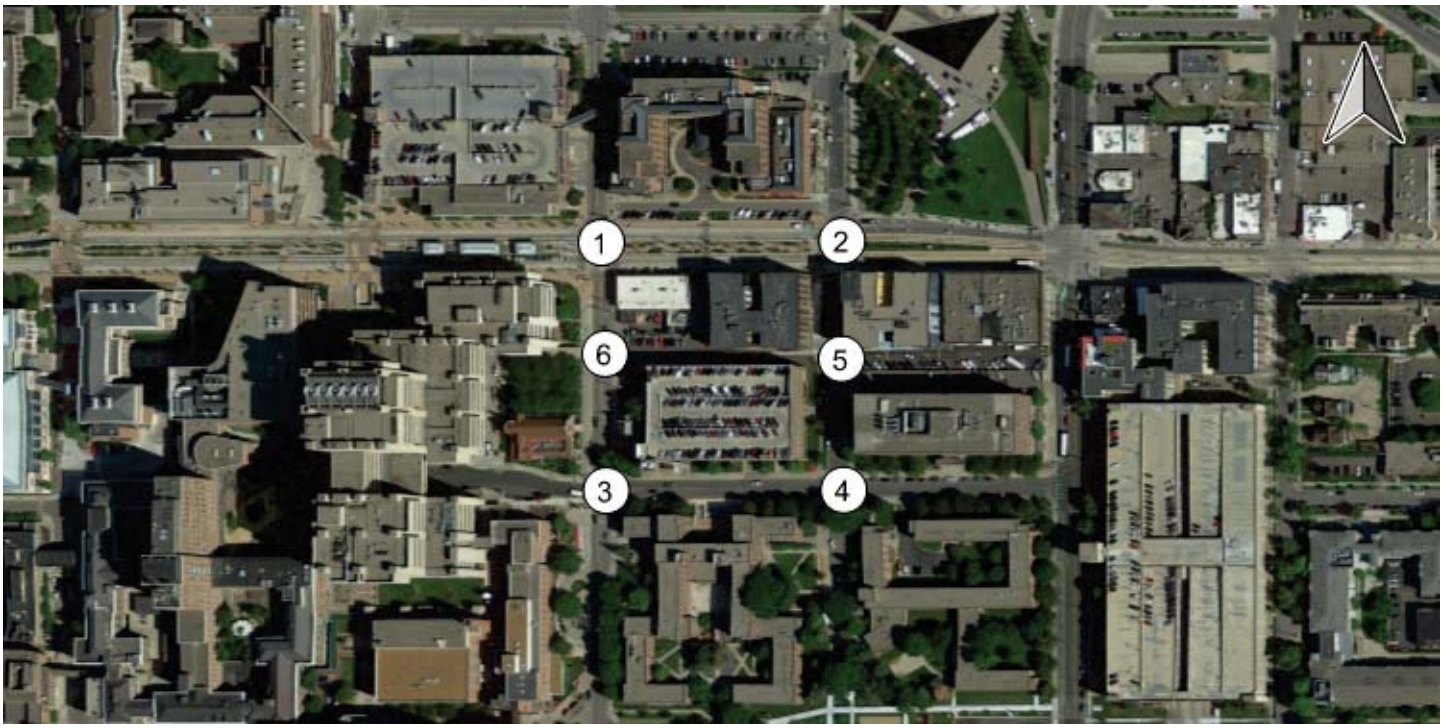


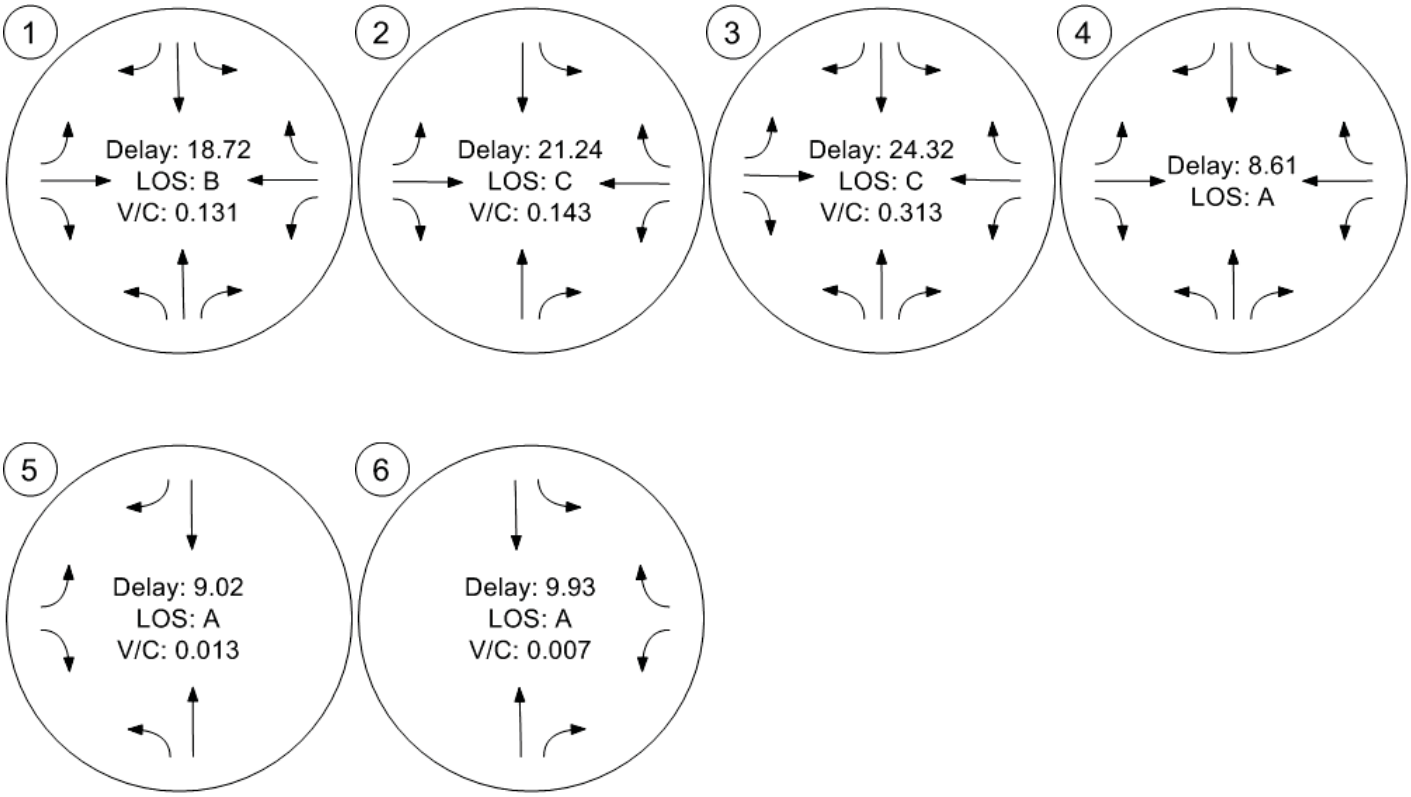
Traffic Volume - Future Total Volume



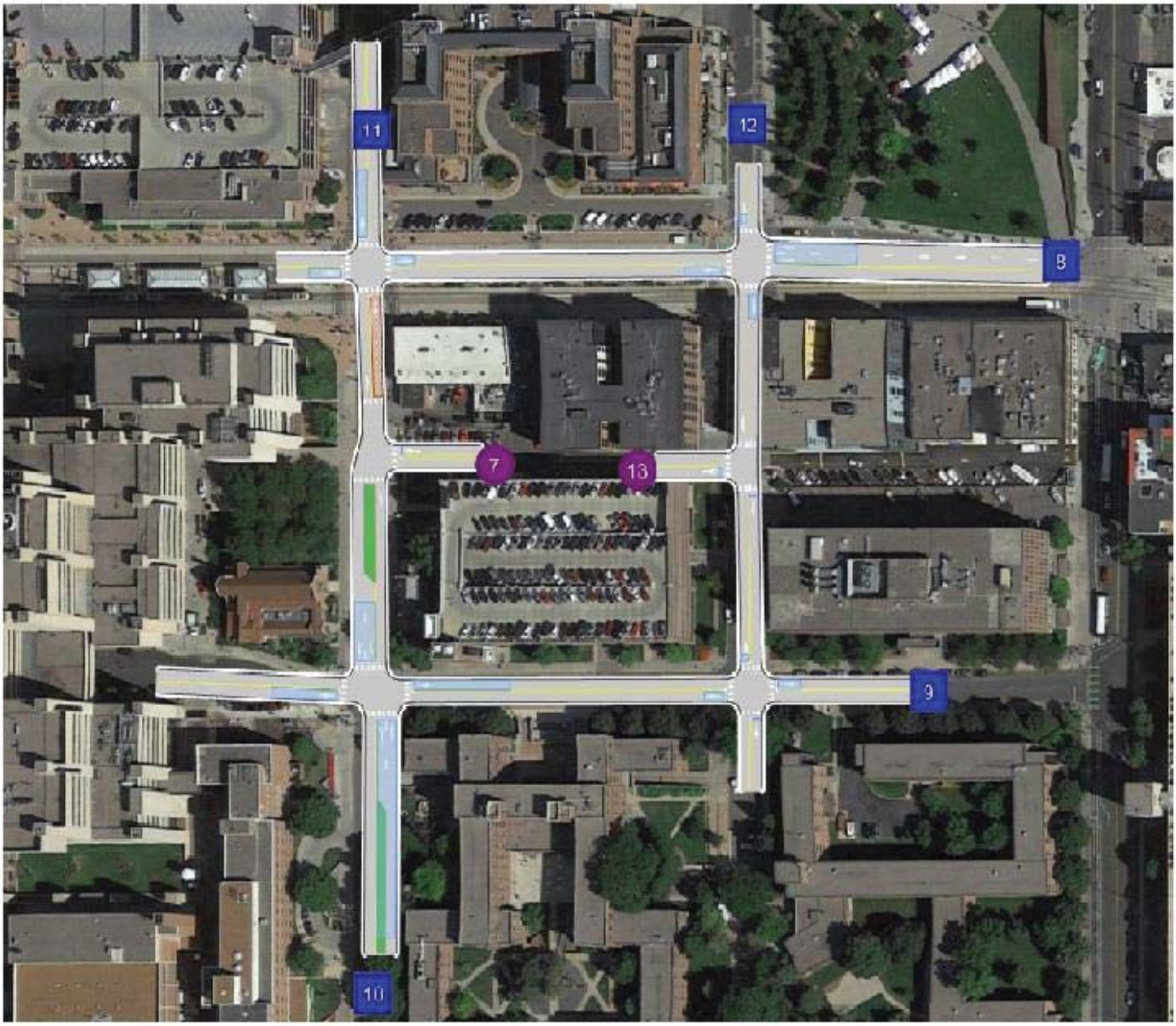


Traffic Conditions





2019 Build Queue Lengths - A.M. Peak



Red block indicates possible interferenfce with nearby intersection.

0 ft 100 ft

2019 Build PM Peak

Scenario 1: PM Peak Build Condition
2/17/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Washington Ave & Harvard St	Signalized	HCM 2010	SB Thru	0.176	19.1	B
2	Washington Ave & Walnut St	Signalized	HCM 2010	WB Right	0.116	19.5	B
3	Delaware St & Harvard St	Signalized	HCM 2010	SB Thru	0.233	22.7	C
4	Delaware St & Walnut St	All-way stop	HCM 2010	EB Thru		9.1	A
5	East Access & Walnut St	Two-way stop	HCM 2010	EB Left	0.013	9.5	A
6	West Access & Harvard St	Two-way stop	HCM 2010	WB Left	0.004	10.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

2019 Build PM Peak

Scenario 1: PM Peak Build Condition
2/17/2016

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Washington Ave & Harvard St	0	102	0	1	201	0	0	39	2	0	36	26	407

ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
2	Washington Ave & Walnut St	37	31	20	18	2	56	2	32	73	49	320

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Delaware St & Harvard St	41	80	74	25	160	11	9	91	43	63	69	22	688

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Delaware St & Walnut St	2	3	20	62	1	42	29	225	4	18	134	42	582

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
5	East Access & Walnut St	28	46	38	15	11	20	158

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
6	West Access & Harvard St	101	4	1	198	3	0	307

2019 Build PM Peak

Scenario 1: PM Peak Build Condition

2/17/2016

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
7: Church Parking Lot Access	Chruch Parking			1.000	8.000	59.00	41.00	5	3	8	9.64
13: Apartment Parking Access	Apt Parking			1.000	75.000	59.00	41.00	44	31	75	90.36
					Added Trips Total			**49**	**34**	**83**	**100.00**

2019 Build PM Peak

Scenario 1: PM Peak Build Condition

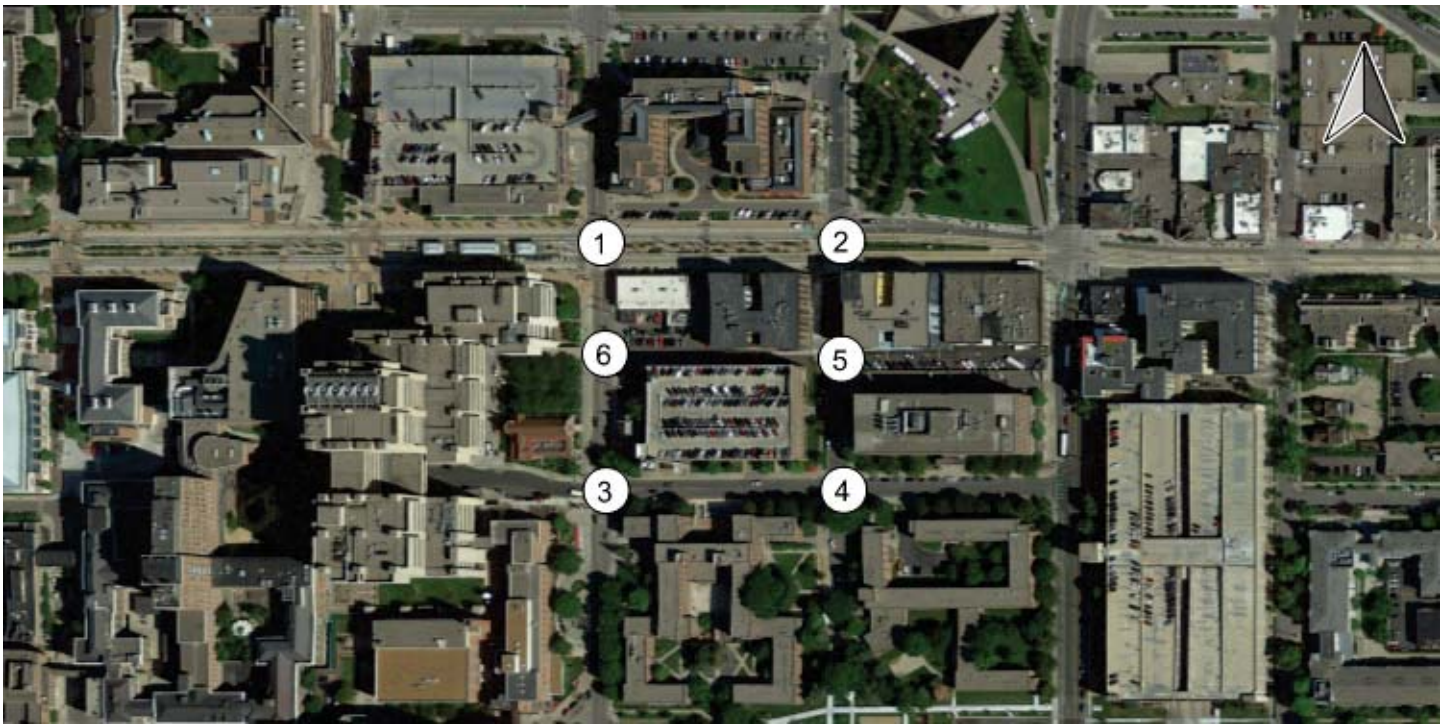
2/17/2016

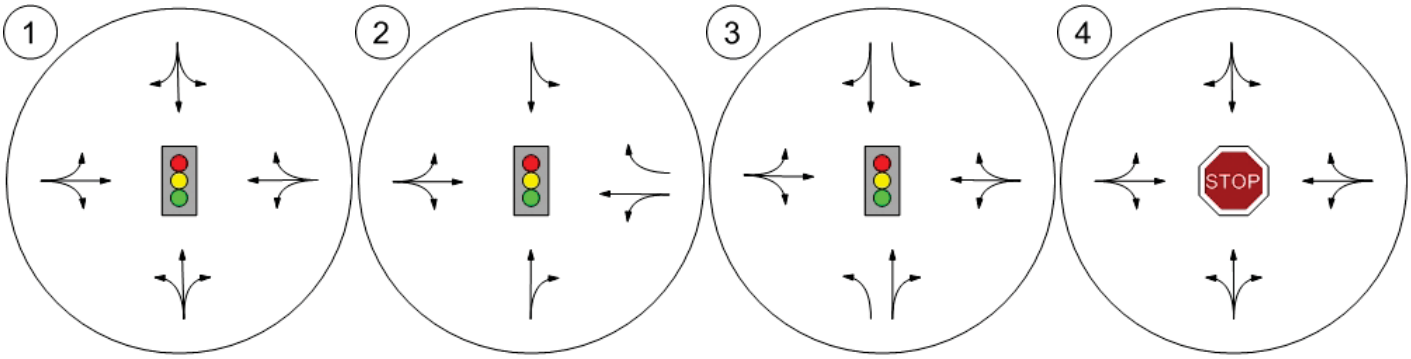
Trip Distribution summary

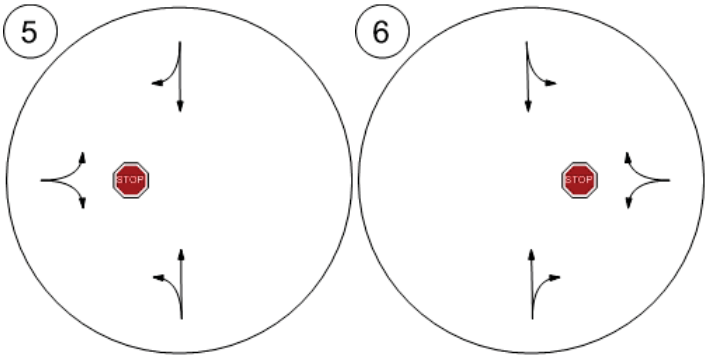
Zone / Gate	Zone 7: Church Parking Lot Access			
	To Church Parking Lot Access:		From Church Parking Lot Access:	
	Share %	Trips	Share %	Trips
13: Apartment Parking Access	0.00	0	0.00	0
8: Washington Ave	30.00	2	20.00	1
9: Delaware Ave	29.00	1	35.00	1
10: Harvard Ave	26.00	1	25.00	1
11: Harvard Ave	10.00	1	5.00	0
12: Walnut Ave	5.00	0	15.00	0
Total	**100.00**	**5**	**100.00**	**3**

Zone / Gate	Zone 13: Apartment Parking Access			
	To Apartment Parking Access:		From Apartment Parking Access:	
	Share %	Trips	Share %	Trips
7: Church Parking Lot Access	0.00	0	0.00	0
8: Washington Ave	30.00	13	20.00	6
9: Delaware Ave	29.00	13	35.00	10
10: Harvard Ave	26.00	11	25.00	8
11: Harvard Ave	10.00	4	5.00	2
12: Walnut Ave	5.00	2	15.00	5
Total	**100.00**	**43**	**100.00**	**31**

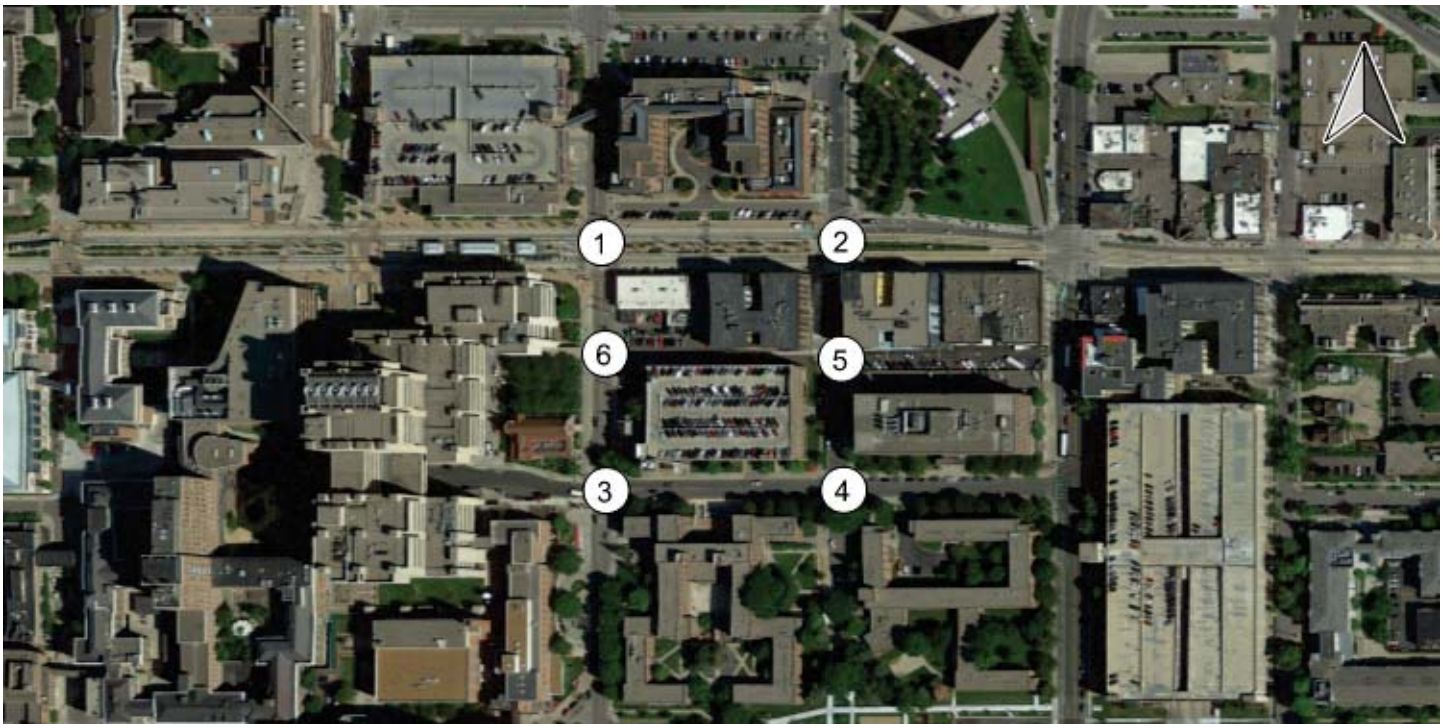
Lane Configuration and Traffic Control

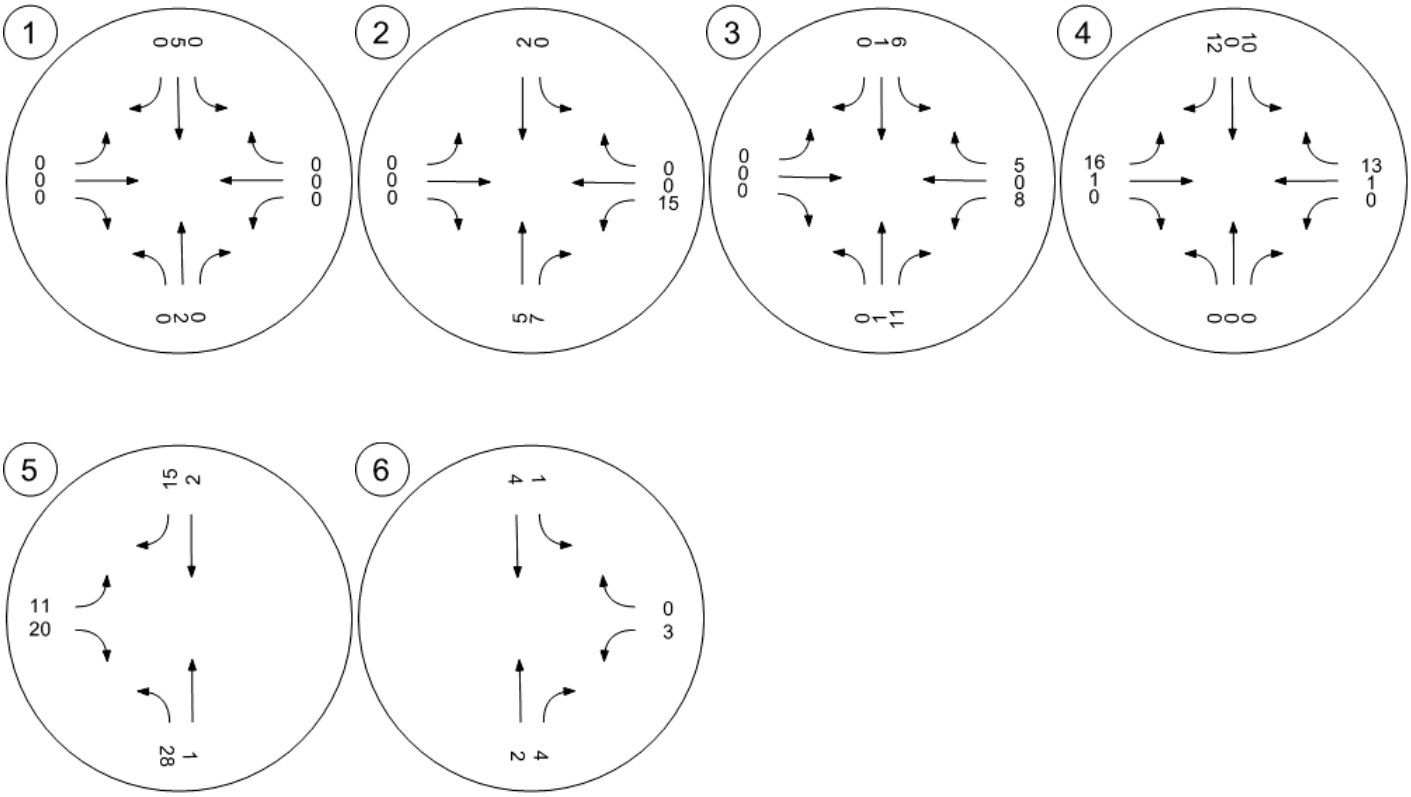




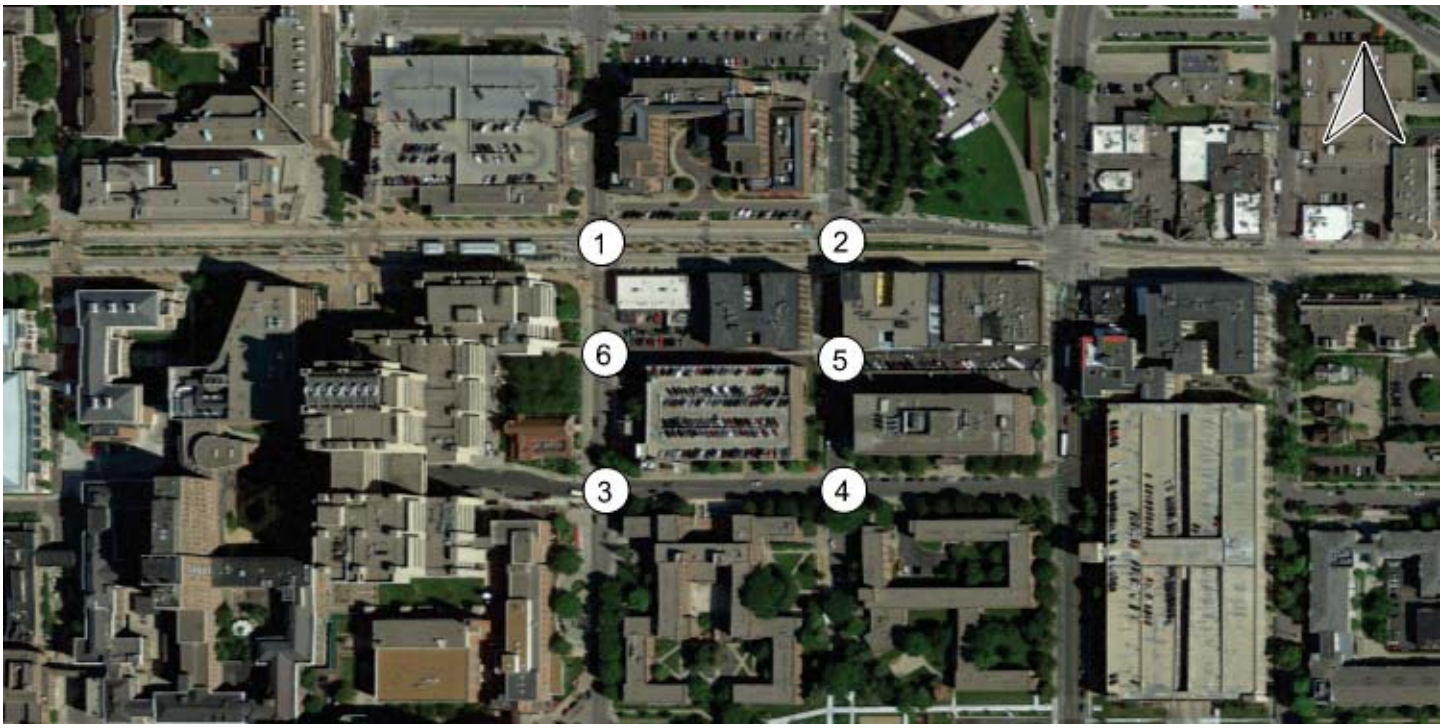


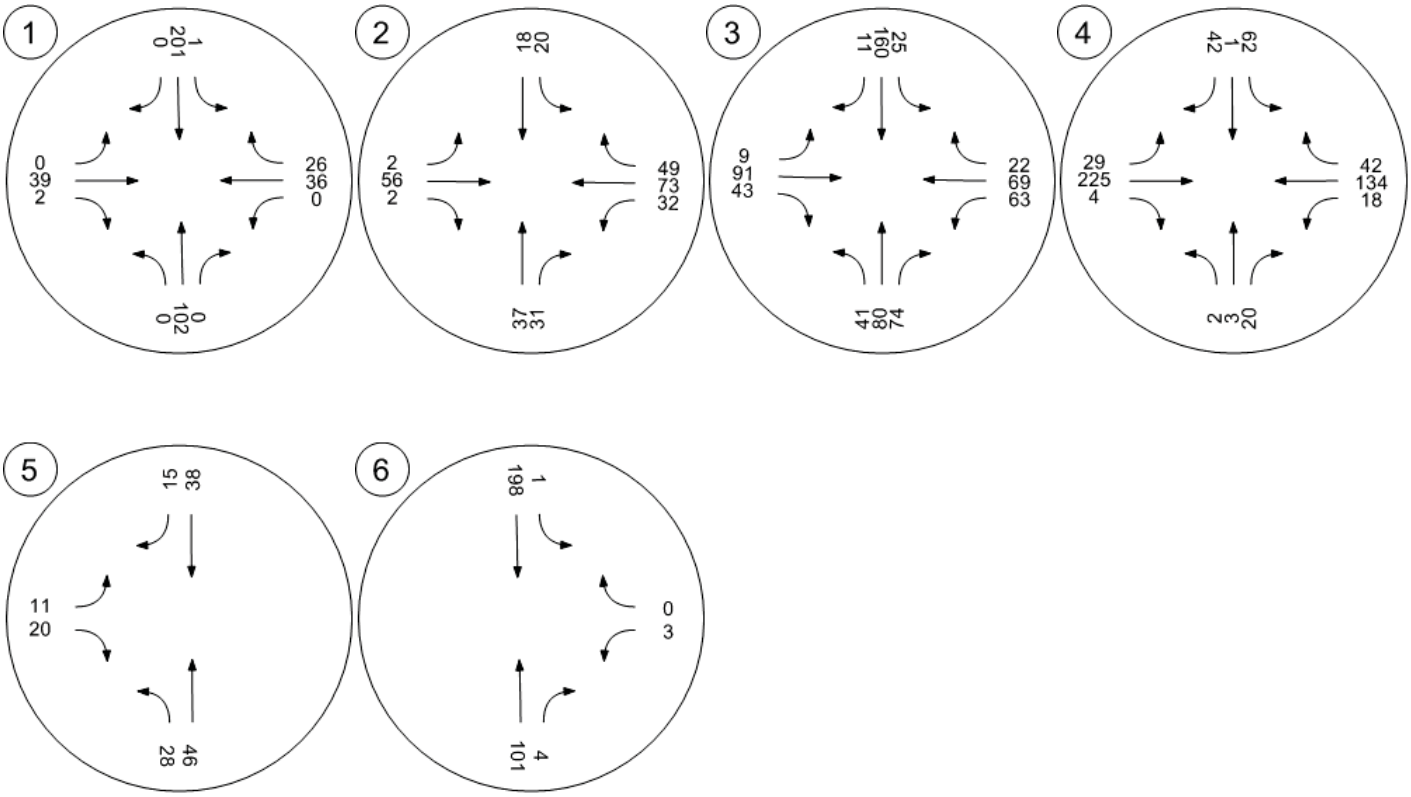
Traffic Volume - Net New Site Trips



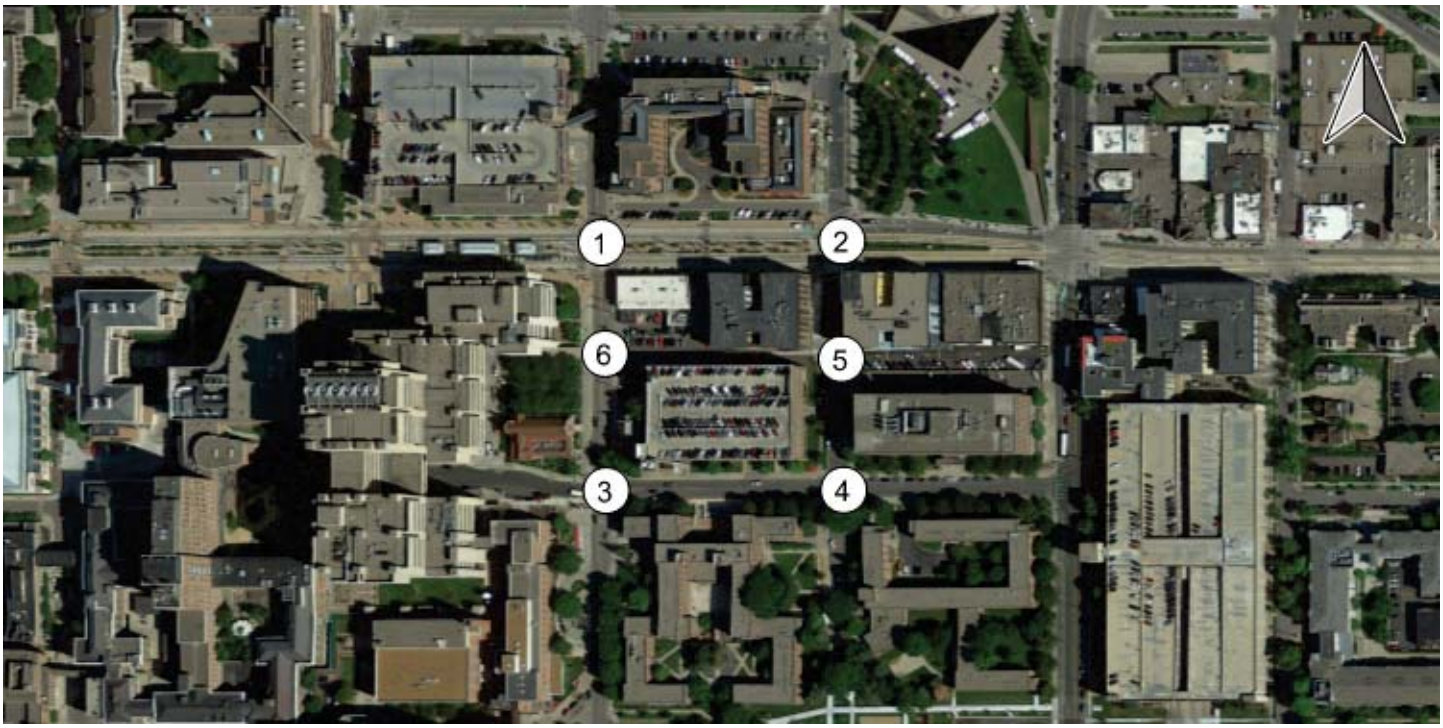


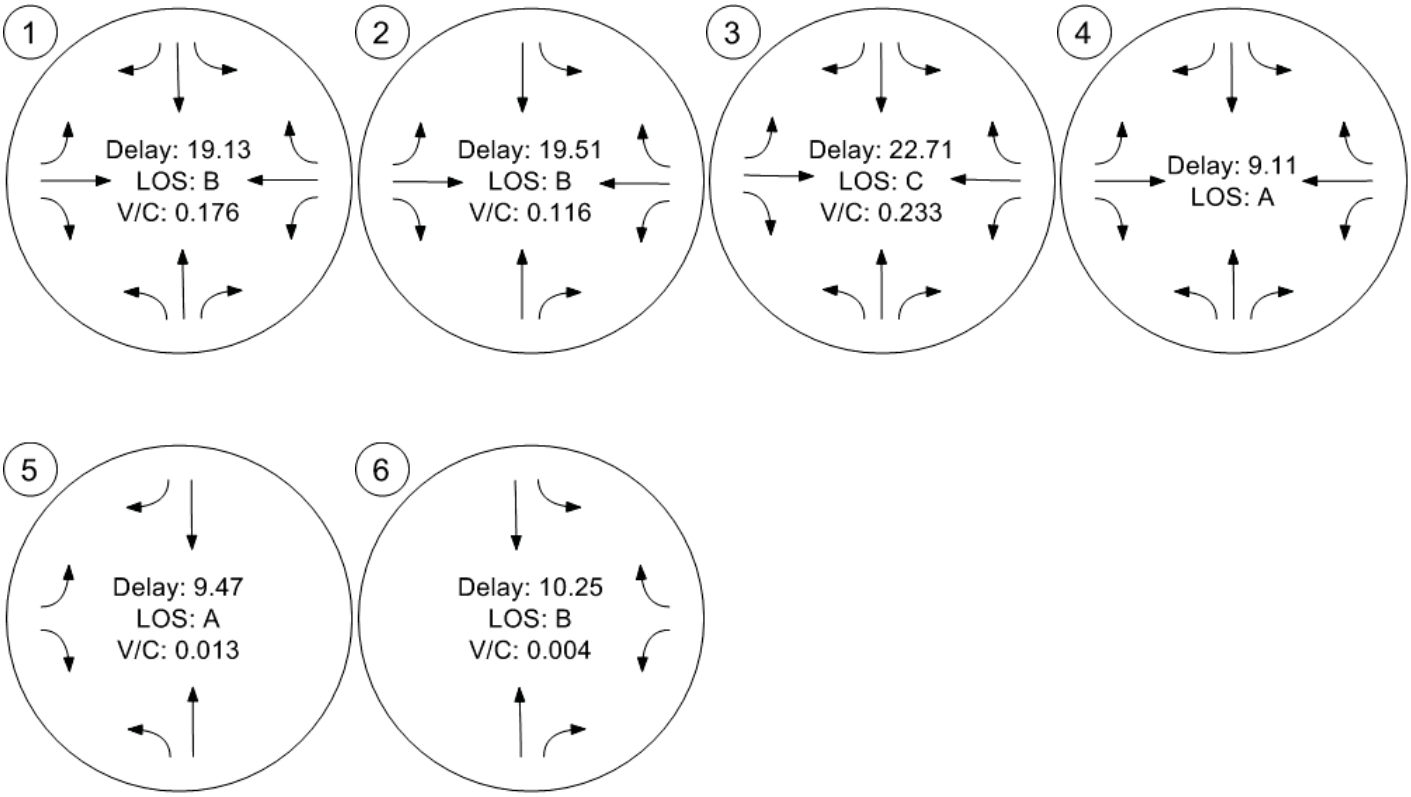
Traffic Volume - Future Total Volume



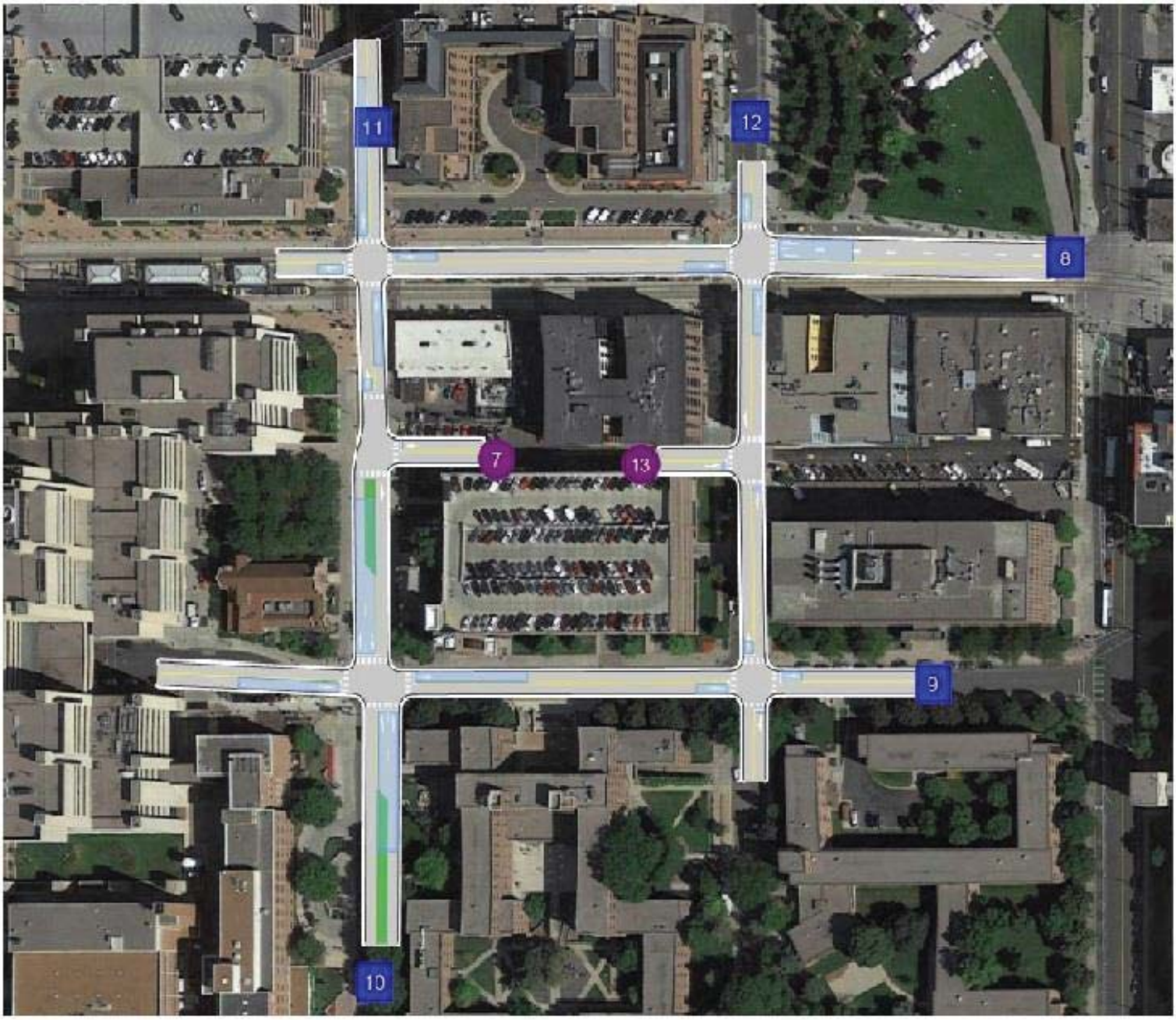


Traffic Conditions





2019 Build Queue Lengths - P.M. Peak



Red block indicates possible interferenfce with nearby intersection.

0 ft 100 ft

2035 Build AM Peak

Scenario 7: 2035 AM Peak Condition
2/22/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Washington Ave & Harvard St	Signalized	HCM 2010	NB Thru	0.142	18.9	B
2	Washington Ave & Walnut St	Signalized	HCM 2010	WB Right	0.154	21.3	C
3	Delaware St & Harvard St	Signalized	HCM 2010	NB Thru	0.336	24.8	C
4	Delaware St & Walnut St	All-way stop	HCM 2010	WB Thru		8.8	A
5	East Access & Walnut St	Two-way stop	HCM 2010	EB Left	0.013	9.0	A
6	West Access & Harvard St	Two-way stop	HCM 2010	WB Left	0.007	10.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

2035 Build AM Peak

Scenario 7: 2035 AM Peak Condition
2/22/2016

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Washington Ave & Harvard St	0	177	3	0	99	1	0	56	0	0	30	2	368

ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
2	Washington Ave & Walnut St	27	15	7	10	0	61	1	18	57	107	303

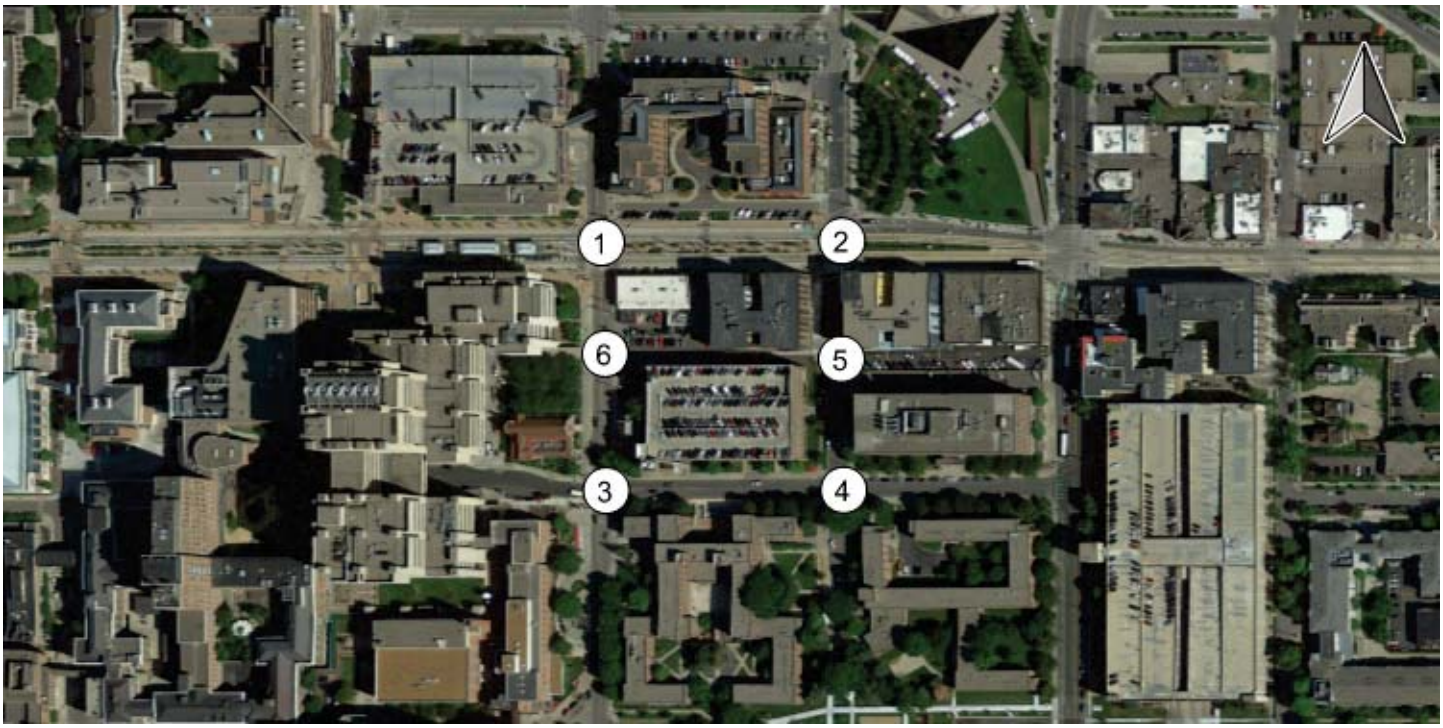
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Delaware St & Harvard St	53	167	69	19	60	15	8	83	14	50	68	26	632

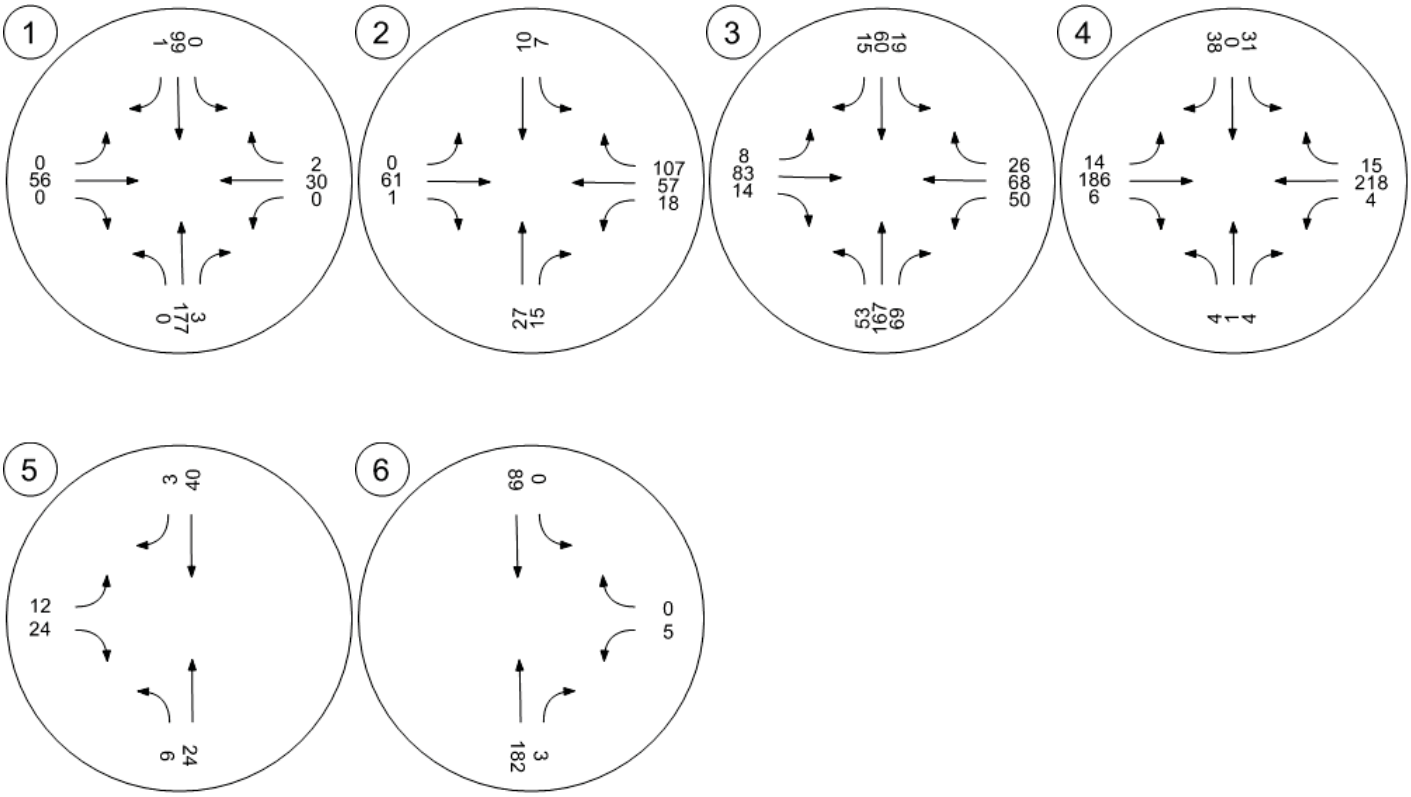
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Delaware St & Walnut St	4	1	4	31	0	38	14	186	6	4	218	15	521

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
5	East Access & Walnut St	6	24	40	3	12	24	109

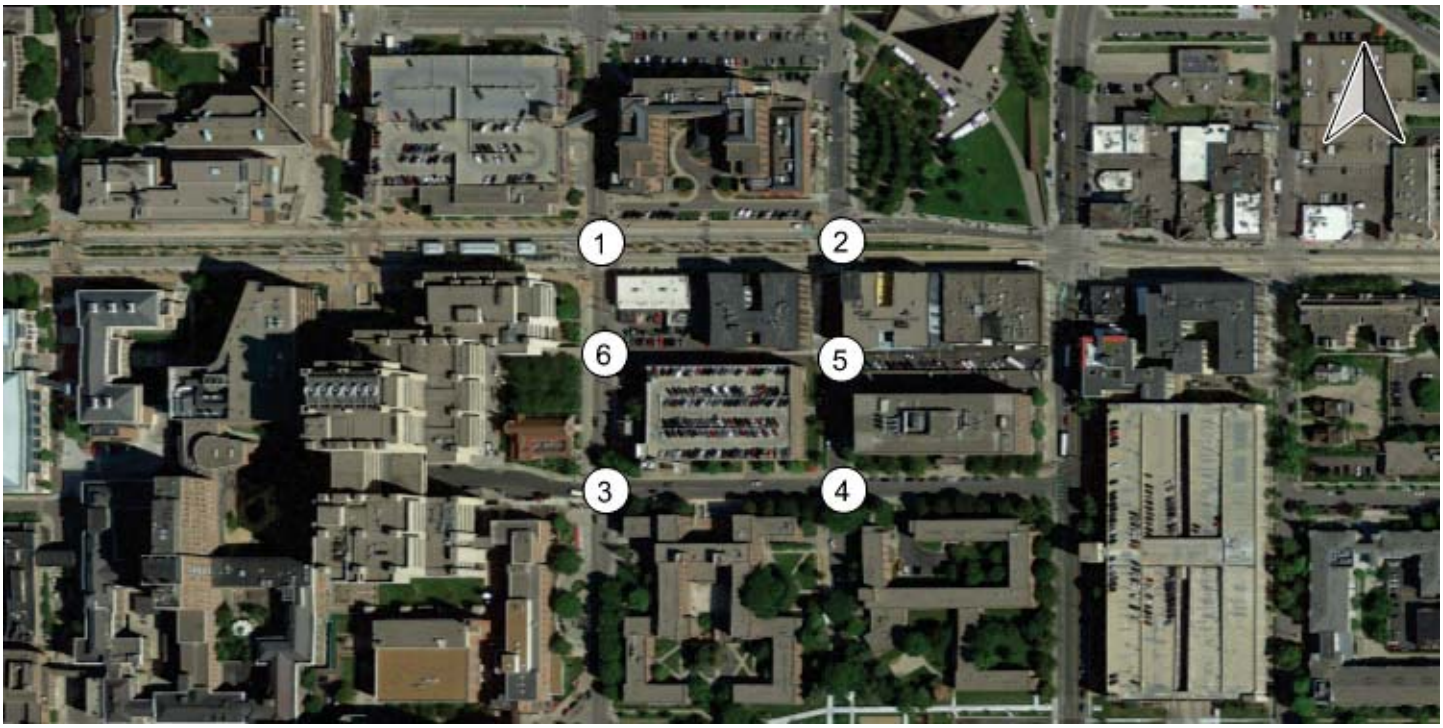
ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
6	West Access & Harvard St	182	3	0	89	5	0	279

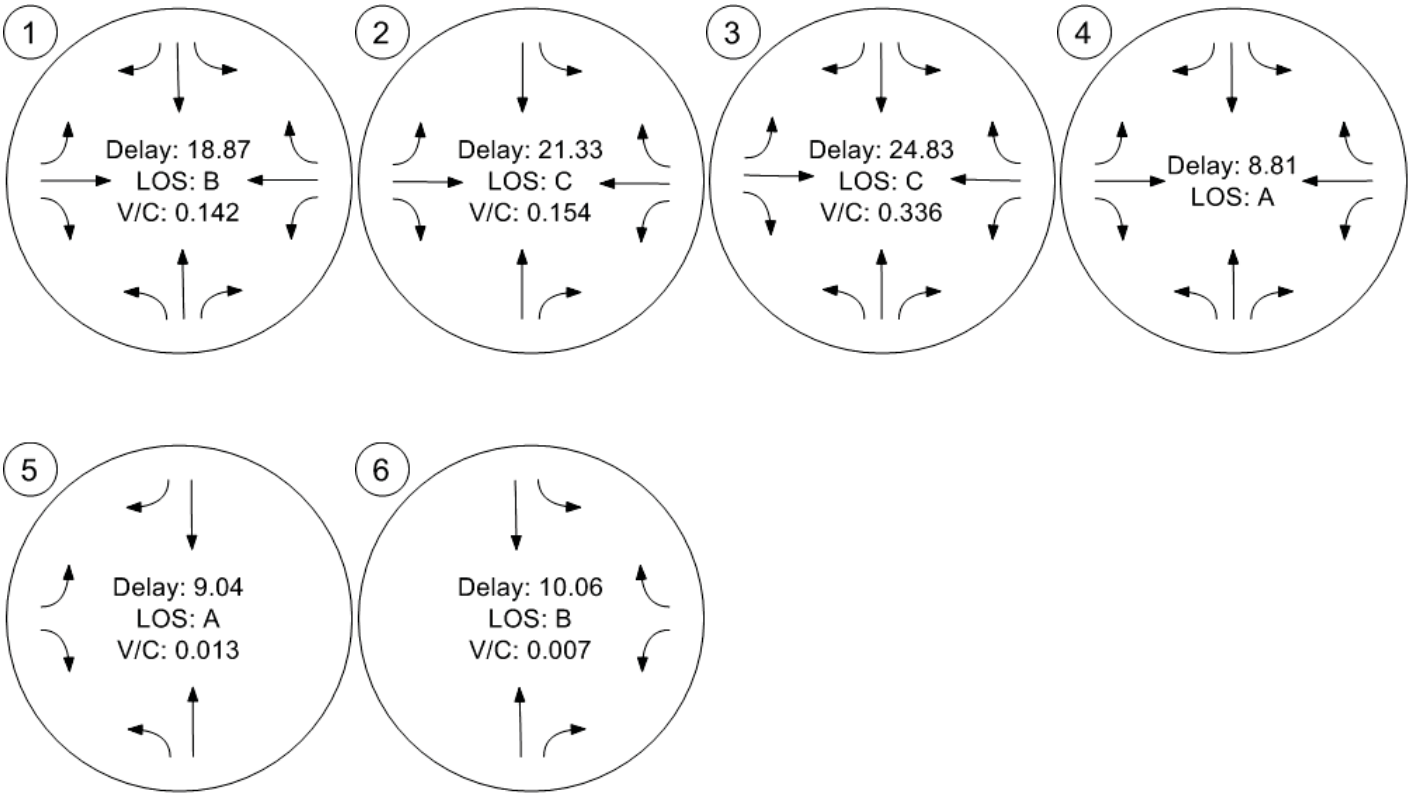
Traffic Volume - Future Total Volume





Traffic Conditions





2035 Build Queue Lengths - A.M. Peak

Red block indicates possible interferenfce with nearby intersection.

0 ft 100 ft

2035 Build PM Peak

Scenario 2: 2035 PM Peak Build Condition
2/17/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Washington Ave & Harvard St	Signalized	HCM 2010	SB Thru	0.189	19.3	B
2	Washington Ave & Walnut St	Signalized	HCM 2010	WB Right	0.125	19.6	B
3	Delaware St & Harvard St	Signalized	HCM 2010	SB Thru	0.252	23.0	C
4	Delaware St & Walnut St	All-way stop	HCM 2010	EB Thru		9.4	A
5	East Access & Walnut St	Two-way stop	HCM 2010	EB Left	0.013	9.5	A
6	West Access & Harvard St	Two-way stop	HCM 2010	WB Left	0.004	10.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

2035 Build PM Peak

Scenario 2: 2035 PM Peak Build Condition
2/17/2016

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Washington Ave & Harvard St	0	110	0	1	216	0	0	42	2	0	39	28	438

ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
2	Washington Ave & Walnut St	39	33	22	20	2	61	2	34	79	53	345

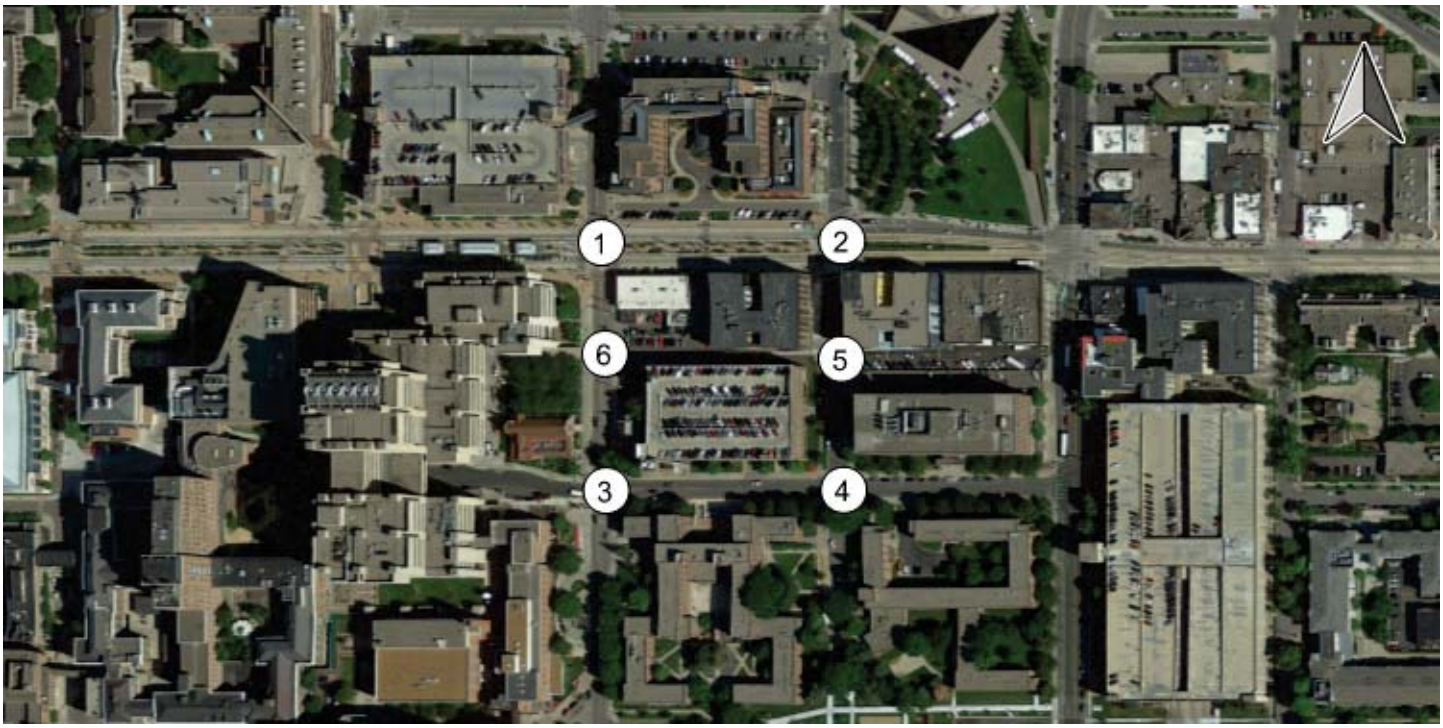
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Delaware St & Harvard St	44	86	79	27	173	12	10	98	46	67	75	24	741

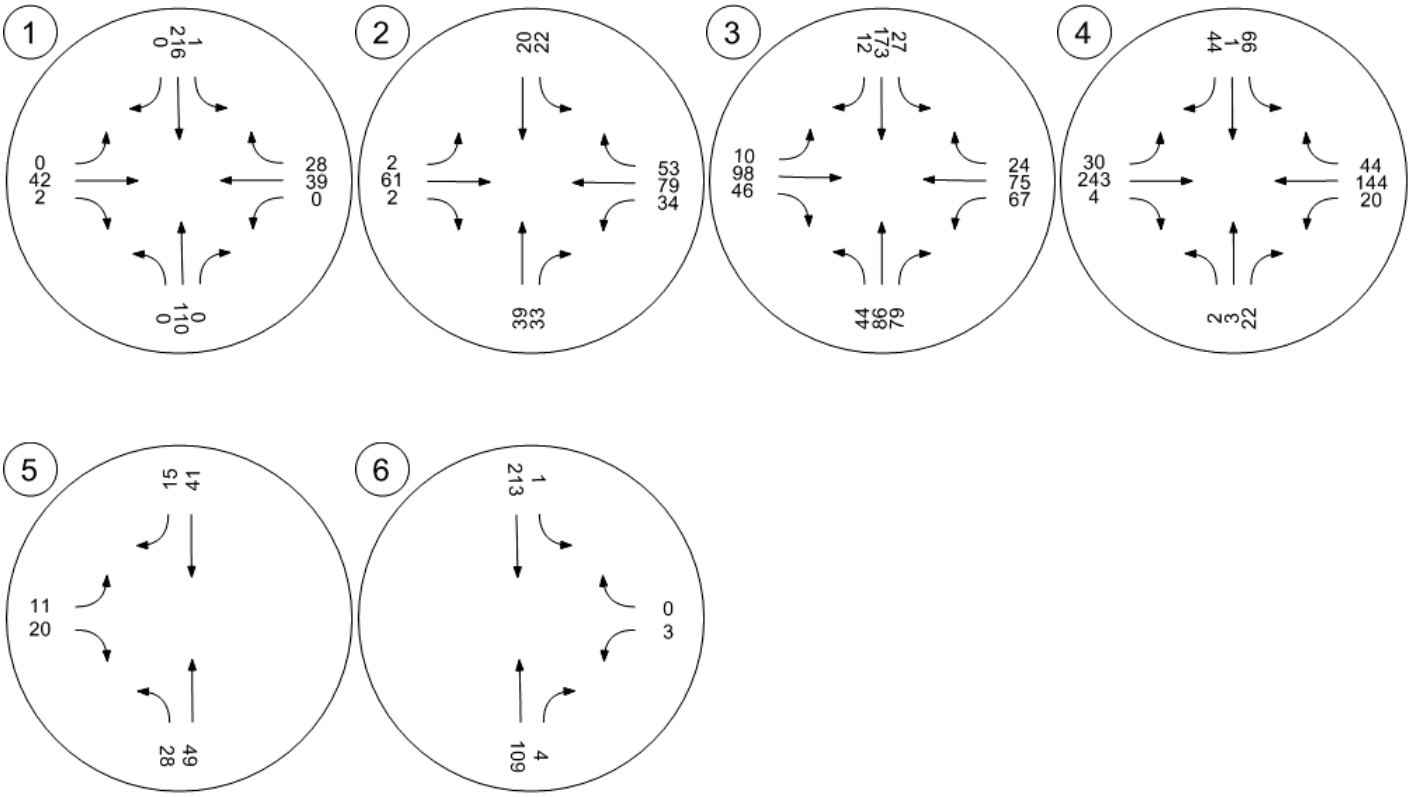
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Delaware St & Walnut St	2	3	22	66	1	44	30	243	4	20	144	44	623

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
5	East Access & Walnut St	28	49	41	15	11	20	164

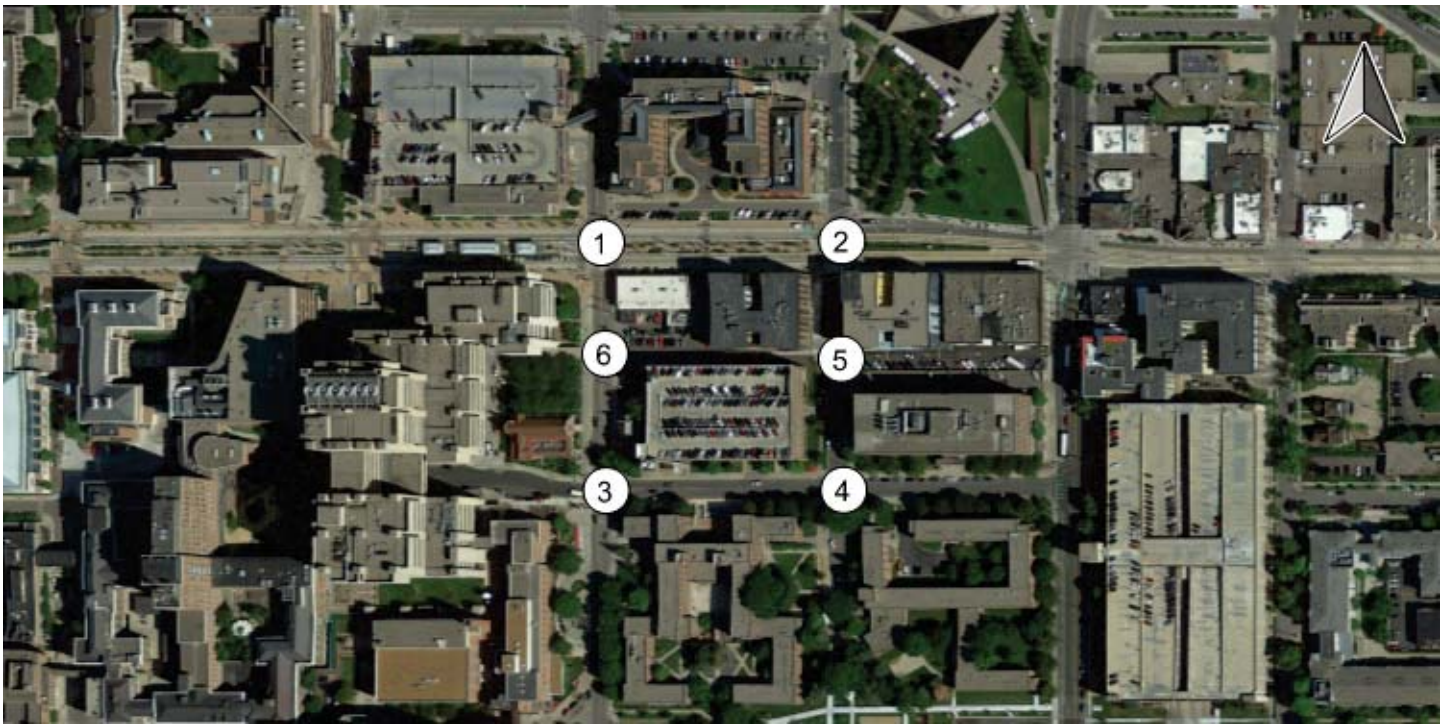
ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
6	West Access & Harvard St	109	4	1	213	3	0	330

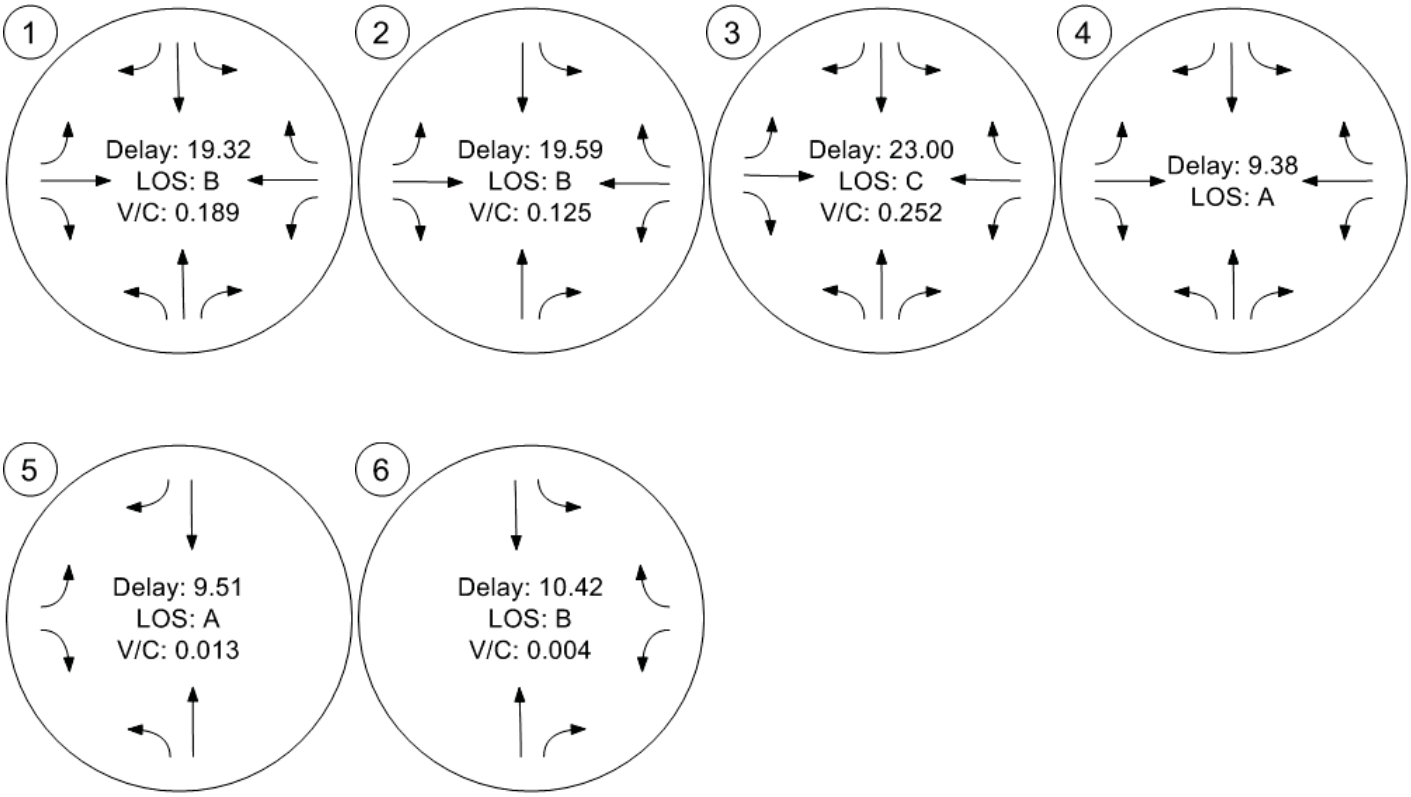
Traffic Volume - Future Total Volume



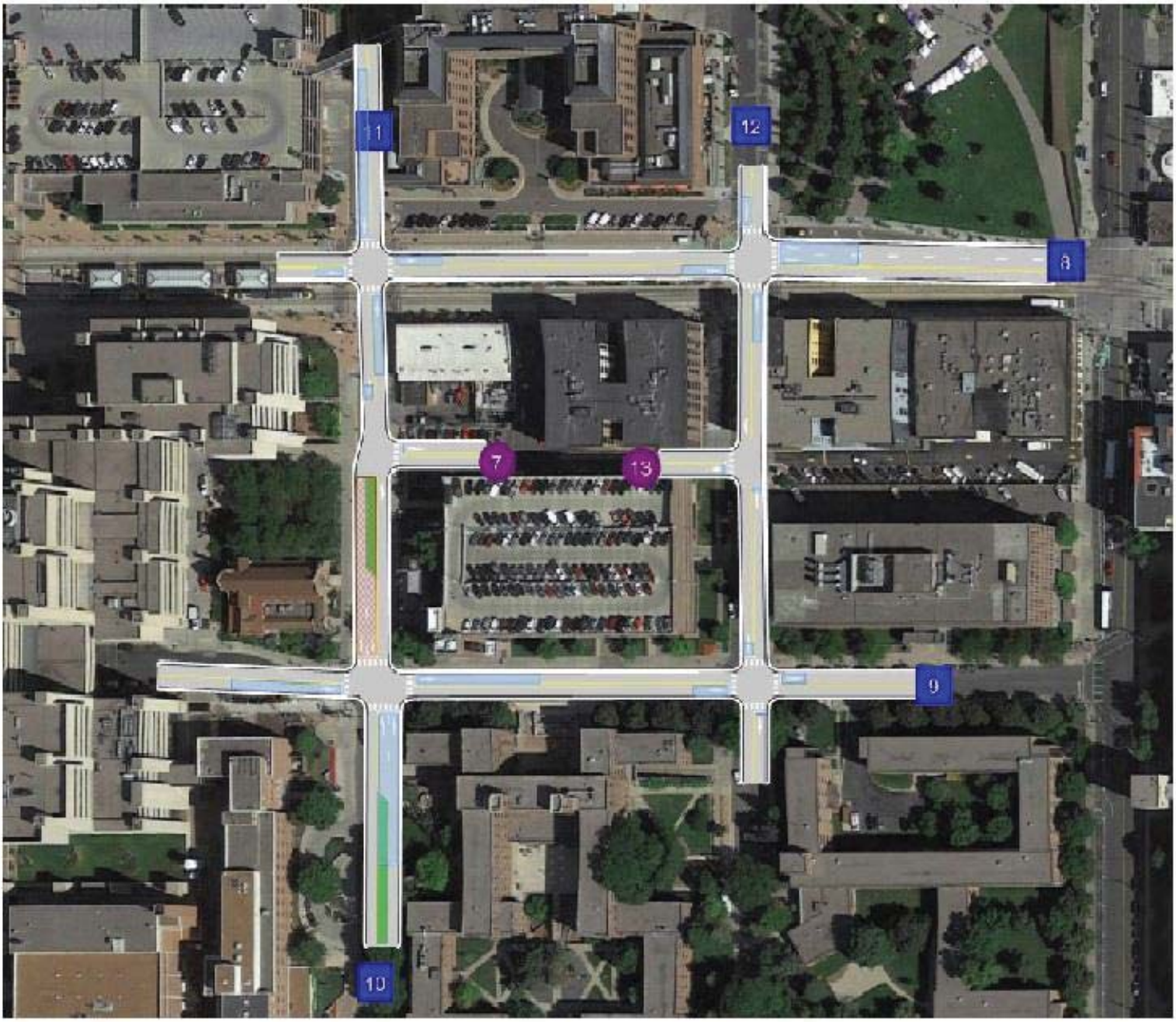


Traffic Conditions





2035 Build Queue Lengths - P.M. Peak



Red block indicates possible interferenfce with nearby intersection.

0 ft 100 ft