Environmental Impact Statement

University Research Park 2 Vetter Parcel

November 3, 2026

DFD #25H4I

PRESENTED TO

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EXECUTIVE SUMMARY

The Wisconsin Department of Administration, Division of Facilities Development (DFD) retained Cornerstone Environmental Group, LLC - A Tetra Tech Company (Tetra Tech) to prepare a Type I Environmental Impact Statement (EIS) for the University Research Park 2 (URP2) Vetter Parcel (DFD Project #25H4I) in Madison, Wisconsin. The EIS is required by the state guidelines in compliance with the Wisconsin Environmental Policy Act (WEPA), Section 1.11, Wis. Stats. The purpose of the EIS is to assess potential environmental effects of the project relative to the quality of the human environment. However, it began as a Type II Environmental Impact Assessment (EIA) that was later determined to be escalated to a Type I EIS. Upon determination that an EIS was required, the Draft Environmental Impact Assessment (DEIA) prepared for the proposed action was incorporated into the Type I review process and designated as the Draft Environmental Impact Statement (DEIS). Accordingly, the analyses, public review activities, and comments associated with the DEIA constitute the DEIS record for this project.

The Final EIS herein evaluates the URP2 Vetter Parcel that includes a 75-acre area for development and an attached 25-acre conservancy area. The 75-acre area to be developed consists of site-preparation work (public improvements) including roughly 39 acres of soil grading; installation of public utilities and stormwater controls; construction of approximately 3,800 linear feet of roadway (Boyer Street and Ancient Oak Lane), sidewalks, lighting, multi-use paths; and site restoration to enable up to about 663,000 gross square feet of office, manufacturing and laboratory development. The project budget is approximately $11,686,300 and construction is currently targeted to begin in Spring 2027. Upon completion of the site-preparation work, URP will market these fully improved lots to sell for further development.

The WEPA process included a scoping letter distributed February 19, 2026. Five public comments were received in response to the scoping letter. A DEIS (formerly DEIA) was released on June 26 with the public review period concluding on July 10, 2026. Two public comments were received after publishing the DEIS. A virtual public meeting was held on July 9, 2026. The public meeting was attended by representatives of DFD, URP, KL Engineering, Tetra Tech, and interested members of the general public. The Final EIS public review period is scheduled for November 6 – December 5, 2026 with a virtual public hearing on December 1, 2026.

Key findings describe the 75-acre area as predominantly fallow agricultural land with discrete woodlots and an intermittent drainage swale. Four mapped wetlands lie within the current development footprint but were determined to be artificial; geotechnical borings show mixed surficial soils with localized fill.

The Endangered Resources Review (March 16, 2026) flags one potential threatened plant species within the 100-acre total project area and notes overlap with a Rusty Patched Bumble Bee high-potential zone. A subsequent plant survey and habitat assessment on August 7, 2026 concluded that the plant species was not observed and there was not suitable habitat for this plant species. Cultural-resource records document prehistoric lithic scatter (Research Knoll) and nineteenth-century features; State Historic Preservation Office concurrence dated January 8, 2025 found no eligible historic properties would be affected in the 75-acre area for development evaluated.

Anticipated short-term construction effects include increased noise, fugitive dust, and truck traffic; long-term effects include conversion of portions of fallow and wooded land to impervious surfaces and built infrastructure with associated loss of some canopy and habitat and increased traffic. The current site plan retains a 25-acre conservancy in the southwest portion of the broader URP2 project area and establishes a minimum-100-foot tree/landscape buffer along the western property line of the primary 75-acre parcel.

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ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
AADT	Annual Average Daily Traffic
ACS	Archaeological Consulting and Services, Inc.
ADA	Americans with Disabilities Act
AGC	Associated General Contractors
AHI	Architectural History Inventory
ARI	Archaeological Reports Inventory
ASI	Archaeological Sites Inventory
AST	Aboveground Storage Tank
BMP	Best Management Practices
BRRTS	Bureau for Remediation and Redevelopment Tracking System
BOR	Board of Regents
CTH	County Highway
DFD	Division of Facilities Development
DOA	Department of Administration
DOT	Department of Transportation
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERR	Endangered Resource Review
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
HOA	Homeowners Association
HPZ	High Potential Zone
LF	Linear Feet
NAAQS	National Ambient Air Quality Standards
NRCS	Natural Resources Conservation Service
PID	Photoionization Detector
PRSB	Program Revenue Supported Bonds
RR	Remediation and Redevelopment

Acronyms/Abbreviations	Definition
SBC	State Building Commission
SE	Suburban Employment
SF	Square Feet
SHPO	State Historic Preservation Officer
TIA	Traffic Impact Analysis
URP	University Research Park
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
UST	Underground Storage Tank
UW	University of Wisconsin
WDNR	Wisconsin Department of Natural Resources
WEPA	Wisconsin Environmental Policy Act
WHPD	Wisconsin Historical Preservation Database
WWI	Wisconsin Wetland Inventory

1.0 INTRODUCTION

1.1 GENERAL

The Wisconsin Department of Administration (DOA), Division of Facilities Development (DFD) retained Tetra Tech to prepare an Environmental Impact Statement (EIS) for the proposed University Research Park 2 (URP2) Vetter Parcel located at the southwest intersection of S. Pleasant View Road (County M) and Valley View Road in Madison, Dane County, Wisconsin. The EIS is required by state guidelines in compliance with the Wisconsin Environmental Policy Act (WEPA), Section 1.11, Wis. Stats and University of Wisconsin System Administration (UWSA) guidelines. The purpose of the EIS is to assess potential environmental effects of the project relative to the quality of the human environment. The Wisconsin DOA DFD is the project manager while UWSA and URP are the project owners.

URP, an independent 501(c)3 and a University of Wisconsin-Madison affiliate, is an internationally recognized research and technology park that supports early-stage, and growth-oriented businesses in a range of sectors, including engineering, computational, and life sciences. URP's mission is to support the continued commercialization of UW-Madison research, technology, and entrepreneurship. Development of URP2 is intended to meet the demand from potential URP users, ahead of which URP intends to build the infrastructure necessary to prepare URP2 for future development. Like its existing campus, URP2 will serve expanding local, state, national and international life science-focused users, especially those using UW-Madison derived technology and employing alumni and recent graduates.

1.1.1 Project Overview

This project will design and construct public improvements, enhanced stormwater management facilities, and support the ongoing development of URP2 Vetter Parcel located at the southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin. The URP2 Vetter Parcel includes a 75-acre area for development (Vetter Parcel) and an attached 25-acre conservancy area (Conservancy). The project location is shown on Figure 1 in Appendix A. Project work within the 75-acre Vetter Parcel consists of design and construction of site improvements to include site preparation, erosion control, stripping existing topsoil, mass grading, stormwater management, fine grading, public utilities, base course, roadway section with curb and gutter, sidewalk, street lighting, private utilities, multi-use path and site restoration (approximately 39 acres of mass grading disturbance and 3,800 LF of roadway). Upon completion, URP will market fully improved lots and negotiate tenant/buyer/URP responsibilities to be captured in final real estate development purchase or lease agreement(s) as users and/or buyers are identified. There are currently no specific development proposals for individual parcels in the plat. The 25-acre Conservancy will remain a conservancy with only an impervious asphalt multi-use path added that connects with the Vetter Parcel improvements.

1.2 WEPA PROCESS

The UW System WEPA compliance process began in November 2025 with authorization to prepare a Type II EIA. The need to prepare an EIA was identified early in the planning phase of the overall project.

During completion of the Type II EIA, the project was reevaluated in accordance with WEPA and applicable UW System procedures. Based on the environmental review, agency evaluation, and/or issues identified during the public review process, it was determined that the project warranted preparation of an EIS. As a result, the project was elevated from a Type II action to a Type I action.

Consistent with UW System WEPA procedures, projects and actions that would normally be classified as Type II may be designated as Type I when impacts are judged to be significant based on a preliminary assessment. The Type II EIA process specifically provides for this determination and states that, where an EIS is required, the information developed during preparation of the EIA is used as the Draft Environmental Impact Statement (DEIS) and the project proceeds through the remainder of the EIS process.

Because the Draft EIA was prepared in accordance with the requirements of the Type II environmental review process, including environmental analysis, public notification, public review, and solicitation of comments, the document has been adopted as the DEIS for purposes of the Type I review process. In order to avoid duplication of effort and to maintain continuity within the environmental review process, a separate DEIS document was not prepared. Instead, the Draft EIA serves as the DEIS and satisfies the draft-stage environmental review requirements for the project. Subsequent environmental review activities are being conducted under the Type I EIS process. References to the DEIS in the following sections therefore refer to the document originally published as the Draft EIA.

The following sections document the sequence of environmental review activities that comprise the URP2 Vetter Parcel WEPA record, including those originally conducted under the Type II EIA process and subsequently incorporated into the Type I EIS process.

1.2.1 Scoping

A scoping letter soliciting input on the project's potential environmental impacts was sent by electronic mail on February 19, 2026 to potentially interested local, state, and federal parties, individuals, and groups. A copy of the scoping letter along with recipients is provided in Appendix B. Five public comments were received in response. Residents adjacent to the Vetter Parcel oppose removal of the existing trees along the western boundary of the 75-acre area and large-scale development, citing loss of wildlife habitat and species diversity and degradation of local aesthetics. They also raise traffic and safety concerns from increased vehicle volumes on Valley View and Pleasant View roads and worry about negative effects on property values. Additionally, a community member expressed interest in plans for the 25-acre conservancy area. Copies of the public comments received in response to the scoping letter are included in Appendix C.

1.2.2 DEIS

On June 26, 2026, a public notice was posted within the legal notices in the Wisconsin State Journal newspaper to request public input on the DEIS document as well as to provide notification of the Public Meeting. The DEIS was available for public review beginning June 26, 2026 and ending on July 10, 2026. Copies or notifications of the DEIS were sent to the individual recipients listed on the Distribution List provided in Appendix D. A hard copy of the DEIS was made available at the City of Madison Public Library (201 W. Mifflin Street - Central Library location) and UW-Madison Helen C. White Library (600 N. Park Street). The DEIS was available for download online at https://www.UniversityResearchParkIIVetterEIA.com/. Two public comments were received after publishing the DEIS which are included in Appendix C.

The deadline for verbal or written comments was July 10, 2026. A public meeting to present the project and DEIS findings and to take verbal and written comments was held on July 9, 2026, at 5:00 pm, virtually. The public meeting was attended by representatives of DFD, URP, KL Engineering, Tetra Tech, and interested members of the general public. The link to the virtual meeting was housed on the project website, linked above. The minutes of that meeting, attendees, public comments, and other information pertinent to the meeting are included in Appendix G.

1.2.3 FEIS

The Final EIS (FEIS) herein has addressed comments received during the public review process and documents any revisions or additional analyses resulting from that review. Following publication and completion of the required 30-day public review period, a final public hearing will be conducted in accordance with UW System WEPA procedures. Copies or notifications of the FEIS were sent to the individual recipients listed on the Distribution List provided in Appendix D. The Final EIS public review period is scheduled for November 6 – December 5, 2026 with a virtual public hearing on December 1, 2026.

Upon completion of the FEIS public hearing, the hearing record and all comments received will be reviewed by the WEPA Coordinator. A Record of Decision (ROD) will then be prepared documenting the findings of fact, environmental findings, and final decision on the proposed action. Issuance of the ROD will constitute the agency's formal finding of compliance with the WEPA process.

2.0 DESCRIPTION OF PROPOSED ACTION

2.1 TITLE OF PROPOSAL

University Research Park 2 Vetter Parcel

DFD Project # 25H4I

2.2 LOCATION

The address for the proposed project is not finalized, but it is generally located at the southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin, as shown on Figure 1 in Appendix A.

2.3 PROJECT DESCRIPTION

The URP2 Vetter Parcel project will design and construct public improvements, enhanced stormwater management facilities, and support the ongoing development of URP2 Vetter Parcel located at the southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin. The overall project encompasses roughly 100 acres. Current site preparation and initial development focus on a 75-acre developable parcel (Vetter Parcel) and an adjacent wooded 25-acre conservancy in the southwest portion of the property (Conservancy). The project work consists of design and construction of site improvements to include site preparation, erosion control, stripping existing topsoil, mass grading, stormwater management, fine grading, public utilities, base course, roadway section with curb and gutter, sidewalk, street lighting, private utilities, multi-use paths and site restoration (approximately 39 acres of mass grading disturbance and 3,800 LF of roadway). Proposed grading and utility work are shown on Figures 2 - 4 in Appendix A, respectively. The proposed alignment of the multi-use paths through the Vetter Parcel and a portion of the Conservancy are shown on Figure 2 in Appendix A. The multi-use paths will be 10-foot-wide impervious asphalt surfaces that provide connectivity between the Vetter Parcel, Conservancy, Hawk's Landing Golf Club and residential neighborhood, and the City of Madison Greenside Park. The proposed alignment was planned to minimize impacts to existing topography and protected trees in collaboration with a licensed arborist, City of Madison Engineering and Forestry Staff, the City of Madison Transportation Commission, and Board of Public Works. The City of Madison Common Council approved the proposed multi-use path on September 22, 2026. The proposed multi-use path alignment is contingent upon obtaining access to an existing City of Madison utility easement from the Hawk's Landing neighborhood west of future Lot 49.

Upon completion of improvements to the 75-acre Vetter Parcel, URP will market fully improved lots and negotiate tenant/buyer/URP responsibilities to be captured in final real estate development purchase or lease agreement(s) as users and/or buyers are identified. There are currently no specific development proposals for individual parcels in the plat. The current plat consists of 9 unimproved vacant lots ranging in size from 4.8 to 8.2 acres, conservation easements bordering the western lots (100-foot buffer from western property line), utility easements bordering the eastern lots, and a large drainage easement bisecting the Vetter Parcel to accommodate a drainage swale and required stormwater management facilities. The proposed public improvements and site grading are intended to potentially accommodate 663,000 sf of combined office, laboratory and manufacturer space and two public roadways (Boyer Street and Ancient Oak Lane). The layout anticipates buildings primarily fronting Boyer Street with parking lots primarily fronting Pleasant View Road to the east and the conservation easement to the west. There are currently no specific development proposals for individual parcels in the plat.

2.4 PURPOSE AND NEED (OBJECTIVE, HISTORY, AND BACKGROUND)

Established in 1984, URP is an independent 501(c)(3) and an affiliate of the University of Wisconsin–Madison. An internationally recognized research and technology park, URP supports early-stage and growth-oriented businesses across engineering, computational, and life-science sectors. URP's mission is to advance commercialization of UW–Madison research, technology, and entrepreneurship by providing space, infrastructure, and community for companies that often employ UW–Madison alumni and recent graduates.

URP's original campus (URP1) sits on 235 acres and is approaching capacity. Between 2010 and 2020, URP's managed footprint of laboratories and offices increased by 40 percent, reflecting growth across the regional technology cluster from nascent research activities to larger companies investing in new facilities. To accommodate continued demand from life-science and related users, particularly organizations commercializing UW Madison–derived technologies, URP is developing URP2. There are multiple locations identified for URP2: URP2 North and URP2 Vetter. The URP2 North location is north of Valley View Road and is not evaluated as part of this EIS. The URP2 Vetter location is south of Valley View Road and is the subject of this EIS.

Before vertical development by future users can occur, URP must first complete site infrastructure. Expanding infrastructure in URP2 will create opportunities to attract larger life-science, office, laboratory, and manufacturing companies seeking to relocate or expand within the URP campus. The City of Madison approved URP2 in 2009. Rough grading was completed on portions of the URP2 North site in 2011. The UPR2 Vetter site received some soil fill material in 2019 and 2021 but no other earthwork activities have occurred. The parcel for URP2 Vetter was annexed into the City of Madison from the Town of Middleton in October 2012 and recently re-platted in 2024.

2005 Wisconsin Act 25 enumerated $15.0 million in Program Revenue Supported Borrowing (PRSB) as additional funding for roads and utilities in URP2. Roughly $1.9 million of that appropriation was used in 2009 – 2010 to plat and construct initial roads and utilities (Project 09L1K — MSN-RESEARCH PARK URP2) within URP2 North. Approximately $13.5 million of the enumerated funding remains available to support the next phase of infrastructure work for URP2, including planned work on the Vetter Parcel.

2.5 ESTIMATED COST AND FUNDING SOURCE

The project cost is anticipated to be $11,686,300 and is funded entirely through existing program revenue supported borrowing. Project costs include design, permitting, project management, construction and construction contingencies.

2.6 TIME SCHEDULE

Table 1 below outlines the anticipated project schedule as it is known at this time. Note that individual project components and detailed milestones are being developed and will be contingent upon milestones such as permitting approvals which may need to have supplementary information prepared.

Table 1: Anticipated Project Schedule

Milestone	Date[(1)]
AE Selection	October 2025
Preliminary Design	Summer 2026
UW Board of Regents (BOR) Approval	Winter 2027
State Building Commission (SBC) Approval	Winter 2027
Bid Date	Winter 2027
Start Construction	Spring 2027
Substantial Completion	Fall 2027
Final Completion	Spring 2028

Footnotes:

(1) Dates are subject to change and contingent upon BoR and SBC Approval.

3.0 EXISTING ENVIRONMENT

3.1 PHYSICAL

3.1.1 Land Use

The 75-acre Vetter Parcel is presently vacant, fallow former agricultural land with areas of overgrown herbaceous cover, discrete wooded tracts, and a single agricultural outbuilding. Previous agricultural uses were limited to conventional monoculture commodity crops. Site photographs showing the exiting conditions are provided in Appendix E. The central and northern portions of the Vetter Parcel are dominated by idle cropland and tall grass/weed cover. The 25-acre Conservancy and western portions of the Vetter Parcel support fairly extensive woodland with developed understory. The barn-type outbuilding is located in the east-central portion of the Vetter Parcel and is currently lease by UW Agricultural Research station to store hay as needed.

The property borders low-density residential neighborhoods and recreational land uses. Hawks Landing Golf Club lies immediately to the west and southwest, and University Ridge recreational lands are approximately one mile to the southwest. County Highway M (S. Pleasant View Road) and Valley View Road form the primary roadway boundaries. Figure 1 in Appendix A shows the project location. The northern parcels within the 75-acre Vetter Parcel are zoned Suburban Employment (SE) and the adjacent wooded 25-acre parcel to the southwest is zoned Conservancy.

Aerial imagery and field observations completed with the Phase 1 Environmental Site Assessment (ESA) prepared by True North Consultants, Inc. on January 8, 2025, document limited prior earthwork and rough grading completed in or before 2022. The Phase I ESA did not identify active commercial or industrial uses in the project area and found no recognized environmental conditions attributable to current on-site land use.

3.1.2 Topography

Existing topography within the Vetter Parcel is variable but generally slope from the east and west property lines down towards the central City of Madison designed and constructed drainage swale that runs from north to south. Ground surface elevations largely range between about 1,040 and 1,095 feet above mean sea level (ft-MSL). Within the Conservancy, topography generally slopes from west to east, with ground surface elevations ranging from approximately 1,060 to 1,140 ft-MSL. Topography at the project area is show on Figure 5 in Appendix A.

3.1.3 Soils

Soils in the project area are mapped by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) as predominantly Dodge silt loam (6–12% slopes, eroded) and Troxel silt loam (0–3% slopes), which together comprise the largest mapped coverage of the area. Other mapped units in order of presence include Plano silt loam (gravelly substratum), St. Charles (eroded), Kidder, Dodge (2-6% slopes), Batavia, Griswold, Radford, and McHenry silt/loam units. The USDA NRCS Web Soil Survey map and legend is included as Figure 6 in Appendix A. The mapped units indicate the project area is underlain primarily by silt and loam textured surficial materials commonly associated with loess and silty glaciogenic deposits, with localized areas where coarser gravelly substrata are present.

Imported soil material was placed in multiple locations in 2019 and 2021, in accordance with a City of Madison erosion control permit. The Phase I Environmental Site Assessment (ESA) report for the Vetter Parcel dated January 8, 2025 by True North Consultants, Inc. states the fill material was from non-contaminated sources that were screened at the source location. URP elected to perform supplemental geotechnical investigations after filling activities to understand where and how filling placement occurred at the Vetter Parcel.

A geotechnical investigation report by Construction Geotechnical Consultants, Inc. (CGC), dated February 16, 2024, states there is a variable subsurface profile across the Vetter Parcel. Surface conditions range from native topsoil to engineered surfacing (aggregate base) and localized areas of imported fill. Fill of variable composition and compaction was encountered in multiple borings and includes sandy material with silt and gravel, scattered clay pockets, and heterogeneous construction debris (including asphalt fragments). Fill and disturbed materials were logged to variable depths in the borings (commonly to the depths the borings terminated, approximately 20 feet below ground surface (ft bgs), with occasional borings extending to about 24–25 ft bgs). Beneath fill and shallow surface materials, native soils generally consist of medium-stiff to very-stiff lean clays and silts underlain by medium-dense to very-dense sands and gravels with variable gravel and occasional cobbles. Organic-bearing lenses or trace organics were noted in select borings.

3.1.4 Utilities

No municipal water mains or on-site domestic service laterals are present within the project area. Public water distribution mains and hydrants are located in the County Highway M, Ancient Oak Lane and Valley View Road rights-of-way immediately adjacent to the project area. Private groundwater wells are located in the surrounding area but none are located on the property. There are existing sanitary and storm sewers present within the project area on easements between the Board of Regents of the University of Wisconsin System and the City of Madison, which traverse east-west and north-south across the Vetter Parcel. Surface drainage is conveyed by overland flow and by a constructed intermittent drainage swale that bisects the Vetter Parcel. No engineered stormwater detention or treatment basins exist on the property. No primary electric or natural gas service laterals, meters, or distribution equipment are present on the project area. There is a major American Transmission Company (ATC) overhead wire and associated easement that extends along the northern border of the Vetter Parcel located south of Valley View Road and the eastern border of the Vetter Parcel located west of Pleasant View Road. The site contains no known on-site telecommunications, fiber, or broadband infrastructure. Utility distribution is expected to occur in the adjacent road rights-of-way.

3.1.5 Stormwater

The project is located within the Upper Badger Mill Creek sub-watershed. Stormwater runoff enters the site at three locations:

1. A 54-inch storm sewer discharging from Valley View Road into the project site. This pipe collects runoff from the URP2 North ponds, the 48-inch City storm sewer under Valley View Road located east of the site, and a 24-inch City storm sewer draining a local depression west of the URP2 North ponds.
2. A 36-inch concrete storm sewer outfall and associated grassed waterway from the Linden Park subdivision, located west of the site, entering along a 50-foot stormwater easement on Lot 47 (Northwest lot of Ancient Oak Lane and Boyer Street intersection).
3. Overland flow from Greenside Circle.

Within the project site, both off-site and on-site runoff flows from north to south through a vegetated drainage swale constructed by the City of Madison in 2005. Blackhawk Golf Course is located immediately south of the project site. The main swale exits the project site through dual 45-inch by 29-inch elliptical concrete pipes connected to a single 60-inch by 38-inch elliptical pipe, or by overtopping an existing golf course cart path with a sag elevation of 1042.5 feet above mean sea level.

Previous studies performed on the site indicated that the golf course path and associated culverts constrain flows in larger events causing over detention. This constraint results in increased onsite storage.

3.1.6 Surface Water

The project lies within the Lower Rock River Basin watershed. Regional concerns in the Lower Rock River Basin include (WDNR Lower Rock River Basinwide Issues, 2026):

- Declining surface-water quality and increased runoff from agricultural and urban land uses; many streams and rivers in the basin do not meet state water-quality standards.
- Conversion of agricultural lands, with consequent effects on wildlife habitat, recreational uses, rural landowners, and the local economy.
- Loss and fragmentation of sensitive habitats and reduced connectivity between habitat patches.
- Reduced groundwater infiltration and locally lower groundwater levels associated with increased impervious area in urbanizing parts of the basin.
- Localized areas of significant groundwater contamination that can affect surface-water interaction and water resources.

The project footprint contains no mapped lakes, perennial streams, or regulated wetlands. A constructed drainage swale bisects the Vetter Parcel and intermittently conveys stormwater from ponds north of Valley View Road and from the project area to culverts that discharge to the Hawk's Landing golf course. The Wisconsin Department of Natural Resources (WDNR) Surface Water Data Viewer identifies this conveyance as Unnamed (WBIC: 5035970) and Unnamed (WBIC: 5035923). The WDNR Surface Water Data Viewer Map is included as Figure 7 in Appendix A. On September 28, 2026, the WDNR determined the drainage swale is non-navigable. No additional waterbodies were identified within 300 feet of the project area.

The nearest prominent lakes in the Yahara chain are Lake Mendota (≈9,781 acres; max depth ≈83 ft) to the north/northeast by approximately 4.5 miles, Lake Wingra (≈336 acres; max depth ≈14 ft) to the east by approximately 5.5 miles, and Lake Monona (≈3,359 acres; max depth ≈74 ft) approximately 7 miles to the east.

3.1.7 Wetlands

According to the U.S. Army Corps of Engineers (USACE), wetlands are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Based on the methods outlined in the 1987 Corps of Engineers Wetlands Delineation Manual and its regional supplement, the presence of a wetland is determined based on three hydric criteria – vegetation, soils, and hydrology (USACE, 1987). The boundary of a wetland is where one or more of these hydric characteristics give way to upland features. Following this guidance, in addition to review of Wisconsin Wetland Inventory (WWI) maps, soil data, and topographic maps, it has been determined that mapped wetlands are not located within the project site boundaries. Wetland indicator soils are present in the area to remain as conservancy (southwest 25 acres). A map generated using the WDNR Surface Water Data Viewer showing mapped wetlands and indicator soils within and around the project area is provided on Figure 7 in Appendix A. Heartland Ecological Group completed an assured wetland delineation study and prepared a report dated July 23, 2026. The study area encompassed the Vetter Parcel and eastern portion of the Conservancy. Four (4) wetland areas totaling approximately 1.26 acres were delineated and mapped within the Vetter Parcel. All mapped wetlands were determined to be artificial by the WDNR in their August 24, 2026 Artificial Wetland Exemption Determination letter and are therefore exempt from state wetland regulations.

3.1.8 Floodplains

The online Federal Emergency Management Agency (FEMA) Flood Map Service Center was utilized to review the flooding potential for the project area. The project is not located within a flood hazard area as shown on Figure

8 in Appendix A. The project can be further defined as within Zone X. FEMA defines Zone X as an area outside the 500-year floods, which means it has less than a 0.2% chance of flooding annually.

3.1.9 Groundwater

Regional groundwater in the project area is located in the sandstone aquifer which makes up the most important aquifer in the Lower Rock River basin, and shallow groundwater occurs within the glacial materials that overlie the bedrock.

During drilling for a geotechnical investigation in December 2023 groundwater was not observed within the borings to depths of approximately 20–25 ft bgs. Seasonal groundwater fluctuations or localized perched conditions could result in temporary water in excavations after significant precipitation. Groundwater conditions at the project area will likely fluctuate, especially seasonally, depending on precipitation, surface run-off, and other factors.

A principal groundwater concern is the decrease in groundwater levels due to urban pumping and increasing impervious surfaces that limit surface water infiltration. Both of these changes affect base flow and thus water temperature and quality in streams. In addition, elevated chloride and sodium levels in surface water and groundwater exist due to winter road and street salting.

3.1.10 Air

State air quality is regulated under Wisconsin's NR 400–499 rule series, which sets the framework for emissions control, permitting, and new-source review. The U.S. EPA sets the National Ambient Air Quality Standards (NAAQS) for six common pollutants—ozone (O3), particulate matter (PM2.5 and PM10), sulfur dioxide (SO2), nitrogen dioxide (NO2), carbon monoxide (CO), and lead (Pb). Areas are officially designated as attainment or nonattainment for each pollutant based on monitoring, modeling, and EPA/state decisions; "attainment" means the area meets the applicable NAAQS.

Federal and state listings show Dane County (including Madison) is currently designated attainment for the common criteria pollutants, which indicates routine ambient monitoring meets the NAAQS. The WDNR operates ambient monitors in Madison that characterize county air quality; the primary urban monitors are located north and northeast of the project area near central Madison and Lake Mendota, approximately 1 north and 4 miles northeast of the project location, respectively. Short-term events such as wildfire smoke or high-ozone days can still cause temporary exceedances, even in attainment areas.

3.1.11 Hazardous Materials

The Remediation and Redevelopment (RR) Sites Map is the WDNR's web-based mapping system for information about contaminated properties and other activities related to investigating and cleaning contaminated soil and groundwater in Wisconsin. It is part of the WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS), an interlinked system for contaminated land activities. No activity is noted within or adjacent to the project area. A copy of the RR Sites Map showing the project area is included as Figure 9 in Appendix A.

The 2025 Phase I ESA noted registered fuel tanks and small aboveground storage tanks on adjacent properties but are not considered as recognized environmental conditions (RECs) for the project area due to their distance and regulatory status. No underground storage tanks (UST) or aboveground storage tanks (AST) are located on the project area property; nearby parcels (e.g., the golf course) maintain small ASTs for maintenance equipment.

There are multiple areas of fill that have been imported onto the Vetter Parcel. During geotechnical investigation work, there was a boring where the drilling subcontractor identified a faint petroleum odor and possible cinders being present. During a Phase I ESA, True North was engaged to screen the soils in the area of the geotechnical boring and found large pieces of asphalt were present. True North screened the soil for volatile organic

compounds (VOCs) using a photoionization detector (PID) and did not identify the presence of any VOCs in the soils where the asphalt was found around the geotechnical boring location. True North believes that the faint petroleum odor and possible cinders was associated with the asphalt pieces in the fill and not actually from a petroleum release or the presence of cinders.

3.1.12 Noise

The project area is located in a suburban/edge-of-urban setting with a mix of roadway traffic, nearby residential properties, and recreational uses (golf course). Existing ambient noise is dominated by vehicular traffic on County Highway M and local roads, with intermittent noise sources such as maintenance equipment at nearby recreational facilities, lawn care, and short-duration events (e.g., aircraft overflights or emergency vehicle sirens). A noise study with site-specific monitoring has not been conducted for the purposes of gathering pre- and post-development noise data for this project.

3.2 BIOLOGICAL

3.2.1 Flora

The property contains three primary vegetation elements: (1) fallow/idle agricultural land with tall grasses and early-successional herbaceous cover across the central and northern portions of the project area; (2) discrete wooded tracts in the southern and western parcels composed of mature and younger trees with an understory; and (3) narrow riparian/seasonal wetland vegetation associated with a constructed intermittent drainage swale that bisects the Vetter Parcel and conveys runoff from upstream ponds. A single agricultural outbuilding and limited areas of prior earthwork interrupt the vegetative cover in places. The 2025 Phase I ESA identifies the wooded areas and swale as the principal on-site natural cover types.

With the preparation of the Tree Preservation and Management Plan prepared by Allison Tree, LLC on August 5, 2023, a certified arborist identified three primary woody/vegetative cover types: plantation and farmstead tree groupings, mature oak stands, and mixed-species woodlots. A black walnut plantation and associated boxelder occur on an east-facing ridge, with average trunk diameters in the 6–8-inch range and an understory of invasive shrubs (honeysuckle, common buckthorn, and multiflora rose). Adjacent zones contain scattered red and bur oak trees, several of which measure 20–25 inches in trunk diameter. The inventory also recorded twelve trees with trunk diameters of 18 inches or greater in the northwest corner of the property.

An Endangered Resources Review (ERR) received by the WDNR on March 16, 2026 identifies one state-listed plant species of concern for the project area, which is listed as Threatened in Wisconsin. Suitable habitat for this species includes dry, open woodlands, prairie remnants, and sandstone outcrops. A vegetation survey was completed by Heartland Ecological Group on August 7, 2026. The vegetation survey was completed within the optimal identification period for the species. The study area for the vegetation survey, encompassing the Vetter Parcel and eastern portion of the Conservancy, consisted primarily of old field that had been historically utilized for agricultural purposes, woodlands that have been degraded by invasive species and with canopy cover exceeding 80%, and scrub shrub areas that were expanding following the cessation of farming practices. The study area did not contain suitable habitat for the plant species of concern, and the species was not observed.

3.2.2 Fauna

Given the land-cover types present and the project area's suburban/Yahara watershed position, the property likely supports common regionally typical wildlife such as small mammals (e.g., eastern cottontail, eastern gray squirrel, various rodents), raccoon and opossum, white-tailed deer in wooded/edge habitats, and a suite of breeding and migratory songbirds that use woodlands, grasslands, and edge habitats. The intermittent swale, nearby ponds,

and proximity to the Yahara lake chain suggest potential habitat for amphibians (frogs, toads), reptiles (including aquatic turtles), and waterfowl/shorebirds that use nearby ponds and lakes.

The 2026 ERR flags the project area as overlapping the Rusty Patched Bumble Bee (Bombus affinis) High Potential Zone (HPZ). The HPZ designation means the landscape contains suitable habitat elements (woodland and prairie/pollinator forage potential) and that voluntary conservation measures are recommended to reduce risk to the species. Recommended practices include planting native, diverse floral resources that provide continuous bloom through the season, retaining or adding native shrubs and trees, and controlling invasive plants.

This project was determined to have no or minimal impact to endangered or threatened species in the state of Wisconsin.

3.3 SOCIAL

Existing social aspects of the area are presented as context to the project and the social profile of potential beneficiaries or impacted parties that could result from project development.

3.3.1 City of Madison

From the 2020 U.S. Census, the City of Madison population is split nearly evenly between men and women, with 133,922 men (49.7%) and 135,918 women (50.3%). Age distribution is: 21.4 percent under 20 years, 33.7% 20 to 34 years, 22.1% 35 to 54 years, 14.1% 55 to 70 years, and 8.7% 71 years or older. By single race responses, residents are primarily White (71.0%), followed by Asian (9.5%) and Black or African American (7.4%); American Indian or Alaska Native (0.5%), other race (3.8%), and two or more races (7.8%) make up the remaining 12.1 percent. Separately, 8.7% of the population identifies as Hispanic or Latino; Hispanic or Latino is an ethnicity and can be of any race.

Table 2 provides population data for Dane County and the City of Madison. Between 2010 and 2020, the most recent period for which complete U.S. Census Bureau decennial data are available, both regions experienced population increases.

Table 2: Population Data for Dane County and the City of Madison

Location	2010 Population	2020 Population	Percent Change from 2010-2020
Dane County	488,073	561,504	15.0
City of Madison	233,209	269,840	15.7

Source: U.S. Census Bureau, June 2023

According to the Wisconsin Department of Administration Demographic Services, Dane County is projected to grow from 488,073 in 2010 to 606,620 in 2040, a 24.3% increase (118,547 more residents), making it the sixth fastest growing county in the state by percentage and the largest numeric gain.

3.3.2 UW-Madison and URP

Founded in 1848, UW–Madison's main campus covers 939 acres and includes roughly 420 buildings. According to official reporting, the fall 2024 10th-day headcount was 51,791 students. Of that total, institutional reporting and summaries place undergraduates at approximately 34,200 and graduate and professional students at an estimated 14,300 (remaining counts include clinical, special and other categories). The student population is

balanced by gender (near a 47:53 male:female split in recent reporting). UW–Madison's living-alumni base surpassed the half-million milestone in 2025 (about 502,000–502,300 reported), and the university employs more than 27,000 faculty and staff (full- and part-time combined), with faculty numbering in the low thousands.

Founded in 1984, the URP at UW–Madison occupies approximately 250 acres on the city's west side. The exiting URP campus includes about 37 buildings totaling roughly 1.8 million gross square feet of office and laboratory space. URP houses on the order of 125–150 tenant companies and organizations spanning established firms and startups; combined on-site employment is reported around 4,000.

3.3.3 Employment and Income

Table 3 provides 2020 employment and income data for the City of Madison, Dane County, Wisconsin, and the United States.

Table 3: Employment and Income Data (2020)

Location	Civilian Labor Force	Number Employed	Number Unemployed	Unemployment Rate (%)	Per Capita Income ($)
City of Madison	158,042	153,579	4,463	2.8	39,595
Dane County	317,520	309,685	7,835	2.5	41,755
Wisconsin	3,093,131	2,983,277	109,854	3.6	34,450
United States	164,759,496	155,888,980	8,870,516	5.4	35,384

Source: U.S. Census Bureau, 2020

The unemployment rate in Madison was 2.8% of the civilian labor force, similar to Dane County at 2.5% and lower than Wisconsin (3.9%) and the United States (5.4%). Per capita income in 2020 was $39,595 for Madison residents, compared with $41,755 for Dane County, $34,450 for Wisconsin, and $35,384 for the United States (U.S. Census Bureau, 2020).

3.3.4 Neighborhoods

Multiple neighborhoods exist directly adjacent to the project area. Each known neighborhood and its location relative to the project area is listed below

- North - Cardinal Glenn Neighborhood Association;
- South and West – Hawk's Landing Homeowners Association;
- South and West – Hawks Reserve HOA;
- West – Bentley Green Neighborhood Association;
- West – Linden Park Neighborhood Association; and
- East – Hill Valley (Proposed Development).

Other non-adjacent nearby neighborhood associations include the Applewood Homeowners Association to the northeast.

3.3.5 Important Social Features and Buildings Located Near the Project

Low-density single-family residential subdivisions border the project area to the south and west and occur along the adjacent roadways, Valley View Rd and S. Pleasant View Rd (CTH M). Refer to Section 3.3.4 above for a list of the neighborhood associations.

Hawks Landing Golf Club is a large recreational golf course and associated facilities immediately adjacent to the western and southwestern boundaries of the project area. The course includes maintained turf, maintenance areas, ponds, and small fuel/AST storage for equipment.

UW-Madison's University Ridge recreational lands lie approximately one mile to the southwest and include managed turf areas and accessory features associated with the course and a clubhouse.

3.3.6 Traffic

The project area is served by County Highway M (S Pleasant View Road), which carries regional and commuter traffic and functions as the main arterial adjacent to the property, and by Valley View Road, which functions as a local collector serving nearby residences and recreational facilities. Typical traffic behavior in the area includes weekday commuter peaks on County Highway M and occasional recreational peaks (mid-morning to mid-afternoon on weekends) associated with the adjacent golf courses.

Wisconsin DOT data (wisdot.maps.arcgis.com, WisDOT Traffic Counts Map) for nearby roads note the following annual average daily traffic (AADT) counts:

- 8,400 AADT on S Pleasant View Rd between Mineral Point Rd & Valley View Rd. AADT Date: 6/2/2025
- 17,000 AADT on CTH M Junction Rd between Watts Rd & S Pleasant View Rd. AADT Date: 6/2/2025
- 21,600 AADT on CTH M 0.5 miles north of CTH PD. AADT Date: 5/19/2025

A Traffic Impact Analysis (TIA) was conducted by KL Engineering for the URP2 Vetter Parcel project dated July 9, 2026 (Appendix H). The TIA found that in the study area, S Pleasant View Road/CTH M functions as a principal arterial with four to six lanes and a posted speed limit of 40 mph. Valley View Road is a collector with a posted speed limit of 30 mph, and S Junction Road is a principal arterial with a posted speed limit of 35 mph. Sidewalks and bicycle facilities are provided along portions of these roadways.

The primary study intersection is the existing roundabout at S Pleasant View Road/CTH M and Valley View Road/S Junction Road. Traffic counts conducted in March 2026 identified the weekday morning peak hour as 7:30–8:30 a.m. and the evening peak hour as 4:30–5:30 p.m. Under existing conditions, all movements at the roundabout operate at Level of Service (LOS) C or better. The intersection is therefore considered to operate with relatively low congestion. Existing queues are generally short and remain within the available lane storage.

3.4 ECONOMIC

The University of Wisconsin System, and UW–Madison as the system's flagship campus, exerts a substantial economic influence at both the local and state level. For fiscal year 2024–25 the UW System projected total expenditures of approximately $7.98 billion and forecast year-over-year revenue growth of roughly $515 million (about a 7% increase), reflecting budgetary adjustments to offset inflation, a tight labor market, and planned capital investments. UW–Madison alone has historically supported a large campus workforce with approximately 27,000 faculty and staff. Economic studies and institutional summaries attribute roughly $30 billion in annual economic output to UW–Madison, supporting on the order of 189,202 Wisconsin jobs and generating approximately $718 million in state tax revenue (Budget in Brief 2023–2024).

URP, an affiliate of the UW–Madison, contributes more than $825 million to Wisconsin's economy each year, according to an August 2010 study conducted by NorthStar Economics Inc., of Madison. The study also found that URP supports nearly 9,300 jobs statewide and generates $43 million in state and local tax revenue each year.

3.5 ARCHAEOLOGICAL AND HISTORICAL

A Literature and Records Search on the Cultural Resources of Potential Development Areas for URP was conducted by Archaeological Consulting and Services, Inc. (ACS) in a report dated June 2024. The report evaluated multiple areas proposed for future development, including the 75-acre Vetter Parcel, but did not include the 25-acre conservancy area. It was found that the Vetter Parcel contains both previously recorded prehistoric material and nineteenth-century Euro-American features. The most notable prehistoric resource is the Research Knoll where previous survey work recovered of a small number of nondiagnostic lithic artifacts. Existing documentation indicates the knoll may extend beyond the limits of earlier surveys (potentially to both sides of County Highway M), so the full extent and current condition of the prehistoric deposits are not known. According to the ACS report, available records do not characterize the Vetter Parcel as a large or highly productive prehistoric occupation, but they do confirm the presence of cultural material in the area.

Historic-period evidence in the Vetter Parcel includes mid- to late-19th-century homestead and trade features shown on historic plats and maps. The 1861 plat depicts a blacksmith shop in the northeast quarter of Section 34, and successive plats identify the Haak/Levitt homestead on the same parcel through later map years. The landscape in the Vetter Parcel likely constrained large permanent water sources and, by extension, large prehistoric settlements, but it nonetheless hosted both prehistoric artifact scatter (Research Knoll) and Euro-American occupation and activity during the nineteenth century.

The June 2024 ACS report that summarizes the archaeological and historical cultural resources in the 75-acre Vetter Parcel was submitted to the Wisconsin Historical Society (WHS) State Historic Preservation Office (SHPO). The SHPO compliance officer gave concurrence that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them) for the areas evaluated on January 8, 2025.

To evaluate the 25-acre Conservancy area, Tetra Tech accessed the Wisconsin Historical Preservation Database (WHPD) on March 17, 2026, and reviewed locally designated historical and archaeological properties within the Conservancy. The WHPD includes information from the Archaeological Reports Inventory (ARI), the Archaeological Sites Inventory (ASI), and the Architectural History Inventory (AHI). Copies of WHPD records are maintained on file with Tetra Tech and are publicly accessible through the WHS hosted database terminal. A Request for SHPO Review and Comment on a State Undertaking was submitted by Tetra Tech on March 25, 2026, and is included as Appendix F. No archaeological reports, archaeological sites, or structures listed in the AHI are present in the Conservancy area. The nearest sites were evaluated in the June 2024 ACS report, and it was determined that no eligible properties will be affected. The SHPO compliance officer gave concurrence that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them) for the Conservancy area on April 7, 2026 (Appendix F).

4.0 PROPOSED ENVIRONMENTAL CHANGE

4.1 MANIPULATION OF TERRESTRIAL AND AQUATIC RESOURCES

The URP 2 Vetter Parcel project will convert the existing vacant/fallow agricultural and wooded land in the 75-acre Vetter Parcel to an employment/park subdivision. Primary terrestrial manipulations anticipated under the current project description include clearing of herbaceous cover and selective removal of trees within mapped construction and grading limits, rough grading of building pads and streets, placement and re-grading of fill in limited areas where imported fill exists, and installation of utility corridors. The project area currently contains discrete wooded tracts, farmstead/tree plantation groupings, and an intermittent, constructed drainage swale that bisects the Vetter Parcel. These vegetation and ground-cover elements are the principal on-site resources that will be altered during initial site work.

Site grading and earthwork will modify existing surface soils across much of the development footprint. The geotechnical review documents variable native soils and areas of fill, and notes prior earthwork in portions of the Vetter Parcel. Excavation, placement of engineered fill, interim stockpiling, and compaction is anticipated to be part of earthwork operations. Topsoil stripping, prolonged exposure of subgrades, and regrading of slopes will change surface hydrology and sediment transport; however, best management practices (BMPs) will be implemented to limit impacts.

Hydrologic/aquatic manipulations are expected to be limited to the existing intermittent swale corridor and associated culvert connections. The constructed swale currently conveys intermittent runoff from ponds north of Valley View Road through the Vetter Parcel to culverts that discharge to adjacent recreational lands. Project construction will involve modification of this conveyance (regrading, culvert replacement/extension, and integration into the proposed stormwater management system). Impervious areas of the Vetter Parcel will increase with the construction of permanent roadways. Artificial wetlands and a non-navigable drainage swale occur within the immediate development footprint. There are no additional waterbodies within 300 feet of the project area; nonetheless, the swale represents a conveyance feature where BMPs will be used for in-place stabilization, swale protection, and sediment control. The proposed multi-use path, aligned within a portion of the 25-acre Conservancy area, does not contain any wetlands. The proposed multi-use path has been routed to minimize impacts to the greatest extent practicable while achieving the accessibility requirements, terrain and connectivity considerations. Wetland permits are not required for this project.

Vegetation and tree resource manipulations are defined in the Tree Inventory and Tree Preservation Addendum dated February 9, 2024, which maps individual trees and woodlot zones to be removed, protected, or left undisturbed outside grading limits and documents invasive understory species in several areas. The westernmost 100-feet of the wooded area along the western side of the Vetter Parcel is planned to remain in place during the current site-preparation phase, except for limited removals in the northwestern portion as required to connect existing public infrastructure. The 100-foot woodland/landscape buffer along the western property line has been reserved where no development will occur as part of this preparatory work and future development. Isolated patches of farmstead trees at the northeast, southeast, and southern borders of the Vetter Parcel may be partially removed during site preparation in accordance with the Tree Preservation and Management Plan Addendum. In addition, trees in the northern central area of the Vetter Parcel may be partially removed during the site preparation and construction of Boyer Street and Ancient Oak Lane. The Tree Preservation and Management Plan Addendum prescribes tree protection measures for retained trees, including temporary fencing, signage, no trench preservation zones, and directional boring specifications where utilities cross root zones, and it identifies selective removals already mapped for specific areas. The plan also documents opportunities to salvage and beneficially reuse removed timber (saw logs, chip reuse). Separately, the 25-acre Conservancy in the southwest portion of the overall project area will remain wooded. Collaboration with a licensed arborist and landscape

architect was conducted to identify a multi-use path alignment that minimizes impacts to existing topography and protected trees.

Utility installation and subsurface work will entail localized disturbance corridors. The Tree Preservation Addendum specifies no open trenching within defined Tree Protection Zones and requires utility routing and construction methods that avoid root zones. Electric, gas, water, sanitary, storm, and telecommunications service extensions routed in adjacent rights-of-way or across the site will require trenching, backfill and compaction, and temporary disturbance of surface cover. Records show existing sanitary and storm sewers on the property. Extensions of public utilities are part of the planned build-out and will be executed as infrastructure works.

Overall, manipulations will predominantly consist of vegetation clearing and selective tree removal, earthmoving and grading, conveyance/channel work limited to the intermittent swale and culverts, and construction of utility corridors and roadway/street infrastructure. The Tree Preservation Addendum provides mapped retention/protection zones and construction-method prescriptions that will limit direct disturbance to prioritized woodlot areas where practicable.

4.2 STRUCTURES

The project will convert the current vacant/fallow and partially wooded Vetter Parcel to a prepared built environment consisting of new streets, utilities, and stormwater management facilities. Following site preparation, which is the scope of this current project, future commercial/office buildings associated with the URP2 development are anticipated. Existing on-site improvements are limited to a single farmstead outbuilding (barn) and minor agricultural appurtenances; these will be removed prior to substantial completion of DFD project improvements.

The site preparation work will include accessory site features such as curbs, sidewalks, and light poles, and associated below-grade elements such as utility trenches, stormwater infiltration/detention facilities, and subsurface storm/conveyance piping. Temporary construction support structures such as staging areas, material stockpiles, and erosion-control installations will be established during the build-out and subsequently removed. After this site preparation project, new vertical structures may include foundations, slabs, retaining walls, and parking areas.

No structures are proposed within the Conservancy area and because there are no existing structures, none will be impacted by the introduction of an impervious multi-use path within the Conservancy area.

Overall, the net change in the Vetter Parcel will be a transition from sparse agricultural/woodland structures to a clustered development footprint with permanent built infrastructure and altered subsurface conditions.

4.3 SOCIOECONOMIC

Associated General Contractors (AGC) Wisconsin's Business Research Division (2025) reports that in 2024 the economic impact of the construction industry totaled an estimated $62.7 billion within the state of Wisconsin. This is composed of $34.5 billion in direct spending, $10.9 billion in indirect impact stemming from the supply chain, and $17.4 billion in induced impact related to spending by households that are impacted by operations. Every $1 spent directly within the construction industry produces an overall economic impact of approximately $1.82 in the state. For the proposed URP2 Vetter Parcel project, this translates into an economic impact of over $21 million based on a combined project cost of $11,686,300.

The construction industry directly and indirectly supported approximately 331,554 jobs statewide in 2024 and generated $27.3 billion in labor income, roughly $82,300 in labor income per supported job. On average, each $1 million of direct construction spending supports about 10 jobs (of which roughly six are in the construction industry and four are in other sectors); using that direct-spending basis, the URP2 Vetter Parcel project is estimated to

support approximately 117 jobs and to generate roughly $9.63 million in labor income. This does not account for the future buildout of these improved lots after site preparatory work is completed.

4.4 OTHER

4.4.1 Hazardous Materials

Construction activities could increase the potential for encountering and mobilizing hazardous materials by disturbing undocumented fill, existing soils, and on-site structures. Geotechnical borings identified localized fill (including asphalt fragments) and demolition of the barn/outbuilding could generate regulated wastes (asbestos, lead-based paint, PCB-containing equipment); however, this is not anticipated. Although no underground storage tanks are recorded on the property, adjacent parcels maintain small aboveground fuel tanks. On-site staging, fueling, and equipment maintenance could create temporary spill risks.

4.4.2 Utilities

Utility construction for the proposed development will extend and install new public and private service infrastructure across the Vetter Parcel, including potable water mains, sanitary sewer mains and laterals, stormwater conveyance and detention/treatment systems, electric and gas distribution, and telecommunications/fiber conduits. Installation will require localized open-cut trenching and backfill for pipelines and conduit, excavation for manholes and inlets, placement of bedding and aggregate, and occasional directional boring where trenching would conflict with preserved trees or sensitive features. These activities may disturb surface cover, compact soils, and encounter fill or variable subsurface conditions identified by geotechnical borings; intermittent dewatering could be needed for deeper excavations.

Utility routing will follow proposed roadway and easement corridors and will be coordinated with existing rights-of-way and record utility maps; final design will include field utility locates (811 and private locates), confirmation of connection points and capacity with the City of Madison and utility providers, and implementation of tree-protection measures (directional boring or no-trench zones) where utilities approach preserved woodlots.

Utilities and utility work anticipated to directly impact the Conservancy area is limited to providing lighting along the proposed multi-use path.

4.4.3 Noise

Permanent ambient noise levels are not expected to change as a result of the project. Temporary noise impacts will occur during construction. A noise permit must be obtained from the City of Madison before construction begins to authorize work during the proposed hours. The City of Madison bans substantial use of construction equipment outside of the hours from 7:00 a.m. to 7:00 p.m., Monday through Saturday and 10:00 a.m. to 7:00 p.m. on Sunday. A City of Madison noise variance must be obtained for any work that falls outside standard allowable hours.

Construction noise is expected to be short in duration within the standard hours of operation per City of Madison ordinances. Certain project phases may need to occur during off-peak hours, at night, or on weekends. Major construction activities that will generate elevated noise levels include excavation and shoring, hauling, grading, clearing, and landscaping. These construction noise sources will most directly affect nearby residents and workers, including occupants of Hawk's Landing, Hawk’s Reserve, Bently Green, and Linden Park neighborhoods. Figure A below presents typical peak operating noise levels of construction equipment at 50 feet, grouping construction equipment by mobility and other operating characteristics.

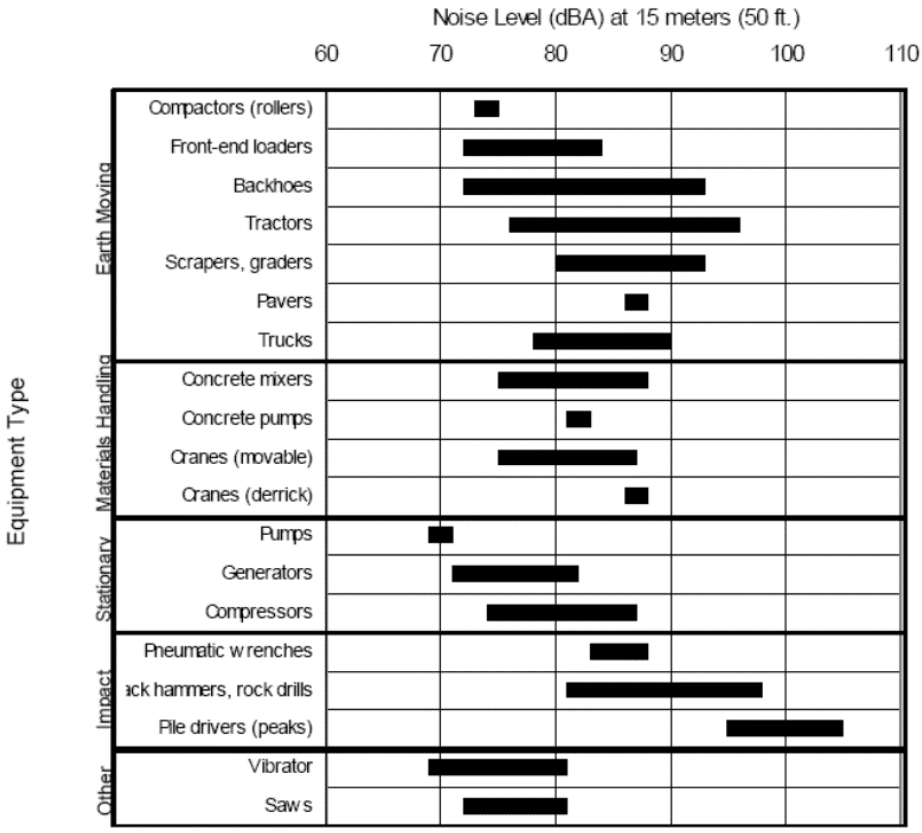


Figure A: Typical Construction Equipment Noise Levels

Source: U.S. report to the president and congress on noise, February 1972

4.4.4 Traffic and Parking

The proposed development will introduce new internal streets, access drives, and eventually surface parking areas that will likely change local traffic patterns and increase parking spaces relative to current conditions. This project is limited to site preparation and construction of public roadways for future development; therefore, long-term local traffic patterns as a result of this project's site preparation work are not expected to change. However, the fully improved lots after completing site preparatory work will be sold for research and development facilities that will likely create long-term traffic impacts.

The TIA provided in Appendix H, evaluated a full-buildout scenario for the anticipated future URP2 Vetter development, including nine lots to be sold for research and development facilities totaling approximately 663,000 square feet. Accordingly, the long-term traffic conditions and trip-generation estimates discussed in the TIA represent potential future development conditions and are not attributable solely to the proceeding site preparation project. Final development will be subject to the City of Madison's transportation demand management ordinance and thus require a transportation demand management plan intended to reduce reliance of single-occupancy vehicles to access the site. Final development will also include the extension of City of Madison Metro Transit service to the site.

Vehicular access is planned from S. Pleasant View Road (CTH M) and Valley View Road via new curb cuts and internal drives. The proposed public roadway improvements include construction of Boyer Road between Valley View Road and S. Pleasant View Road (CTH M), an extension of Ancient Oak Lane to S. Pleasant View Road (CTH M), and associated turn lanes and access improvements. Preliminary plans for future development show

multiple parking fields and curbside spaces within the campus road network to serve employees, visitors, and service vehicles, which would increase impervious areas compared with the existing conditions.

The project could add peak period vehicle trips to the surrounding roadway network during construction; the TIA evaluated trip generation, peak-hour turning movements, and potential operational effects associated with the full-buildout scenario. Under that scenario, the URP2 Vetter development is expected to generate approximately 4,635 weekday vehicle trips, including approximately 555 trips during the morning peak hour and 835 trips during the evening peak hour.

Traffic operational effects are likely to be concentrated at the new access points, the proposed Boyer Road and Ancient Oak Lane connections, and at the existing roundabout at S. Pleasant View Road (CTH M) and Valley View Road/S. Junction Road. The TIA evaluated traffic conditions for existing conditions, an interim year of 2032, and a horizon year of 2042. The analysis considered both a 0.5-percent and a 1.2-percent annual background traffic-growth rate. Under the 0.5-percent growth scenario, the TIA indicates that all movements would operate at Level of Service (LOS) D or better in 2032 build conditions. By 2042, the proposed Boyer Road signal is projected to operate at approximately LOS B during the morning peak hour and LOS C during the evening peak hour. The existing roundabout is projected to operate at approximately LOS C during the morning peak hour and LOS B during the evening peak hour overall.

The TIA identified potential for higher delay under the 1.2-percent growth scenario, particularly at the existing roundabout by 2042. Under that scenario, several movements could operate at LOS E or F. The TIA attributes these results to the more conservative background-growth assumption and indicates that the 0.5-percent growth rate may more closely reflect historical traffic-volume growth along S. Pleasant View Road. The TIA also indicates that the projected queues for the movements operating at LOS E under the 0.5-percent growth scenario would remain within available lane storage capacity.

The TIA evaluated potential access improvements and future roadway conditions, including turn-lane additions, signal timing adjustments or signal installation, and geometric changes to improve turning movements and reduce queuing. The TIA identified signal installation at S. Pleasant View Road (CTH M) and Boyer Road/Enchantment Lane as anticipated to be needed as traffic volumes increase, with the timing to be monitored by the developer and the City of Madison. The TIA also assumed all-way stop control at the intersection of Ancient Oak Lane and Boyer Road. On-site circulation is anticipated to require design accommodation for delivery and service vehicles (e.g., internal turning templates and loading zones) to minimize the potential for vehicles queuing onto public streets.

Roadway and parking construction will increase impervious surface and therefore necessitate stormwater treatment measures. Future parking areas are intended to be designed to meet municipal stall-count and Americans with Disabilities Act (ADA) requirements, and are likely to incorporate landscaped islands, stormwater inlets, and infiltration or detention features to manage runoff and provide shading.

Construction-period effects may include increased truck and construction vehicle movements, temporary lane or shoulder closures, and short-duration queuing at site access points. Typical construction traffic management measures such as designated haul routes, off-road staging areas, temporary traffic control, and track-out minimization practices are expected to be used to reduce disruption to the public road network. The TIA provides an evaluation of traffic conditions associated with the full-buildout scenario, while final determinations on required intersection improvements, exact parking counts, and mitigation measures will be based on agency coordination during final design and future development. Because the proposed project is limited to public roadway improvements and site preparation, the traffic effects directly associated with construction of this project would primarily be temporary. The longer-term traffic effects described in the TIA would occur only if and when the future URP2 Vetter facilities and other surrounding development are constructed and occupied.

4.4.5 Air

In general, construction activities are expected to generate fugitive dust and particulate matter. Dust will be controlled during construction using standard BMPs such as periodic watering of disturbed areas, limiting vehicle speeds on site, and stabilizing stockpiles. Based on the current project description, air permits are not anticipated to be required for the proposed project.

4.4.6 Sustainable Guidelines

The project (site preparation and public improvements of URP2 Vetter) will utilize the DFD Sustainability Guidelines, which are based on the AIA Framework for Design Excellence (formerly the COTE Top 10), to guide initial planning and design. The DFD Sustainability Guidelines are intended to promote efficient use of existing space, conserve natural resources, reduce adverse environmental impacts, improve energy efficiency, and consider lifecycle costs of equipment. The full DFD Sustainability Guidelines are available from the Wisconsin Department of Administration at https://doa.wi.gov/Pages/DoingBusiness/Sustainability.aspx.

5.0 PROBABLE ADVERSE AND BENEFICIAL IMPACTS

5.1 PHYSICAL IMPACTS

Site development will alter existing groundcover and surface soils through clearing, grading, cut/fill operations, compaction from construction equipment, and placement of engineered fill. Local surface hydrology will be modified by impervious roadway surfaces, stormwater conveyance changes, and detention/infiltration installations. Additional stormwater treatment including infiltration and oil and grease control will be added to individual lots, as needed, during site development.

Construction activities should not threaten water or soil quality provided that typical measures are implemented to control erosion and prevent tracking of soils onto adjacent roadways. Short-term air impacts are expected from construction vehicle emissions and dust generated by site work. Contractors are required to follow BMPs for dust control as set forth by the WDNR, including periodic watering of exposed soils to maintain surface moisture, use of wind breaks, and covering stockpiles or exposed ground. Routine air monitoring indicates Madison's ambient air quality generally meets the NAAQS, and the proposed project is not expected to produce a measurable long-term effect on regional air quality.

Final site grading and permanent stormwater management systems are expected to reduce uncontrolled runoff and improve water-quality performance relative to unmanaged runoff from both the existing disturbed/fallow condition and the future full buildout conditions. The future pond at the southern side of the site will provide regional rate control and water quality treatment for full buildout of both the project site and portions of URP2 North draining to the existing ponds north of Valley View Road. Installation of paved roadways and utilities will provide durable access and reduce track-out and unpaved surface erosion following project completion.

The Conservancy will remain as a wooded tract but will have the addition of a paved multi-use path within a portion of the Conservancy. Installation of an impervious multi-use path within the Conservancy is intended to be sited by a licensed arborist to avoid mature trees and construction of the path is expected to require only limited, localized disturbance (some tree and brush removal, placement of asphalt surfacing, and temporary access for crews). The Conservancy is anticipated to retain existing infiltration function and hydrologic buffering relative to developed portions of the site. Tree-protection measures (fencing, signage, and no-trench zones) will be maintained along conservancy boundaries during construction to prevent inadvertent encroachment. A wetland delineation study completed in July 2026 did not identify any wetlands within the Conservancy. Beneficial impacts from the Conservancy path include enhanced recreational and amenity value. Overall, physical impacts within the Conservancy are expected to be minimal, localized, and primarily associated with installation of the proposed multi-use path and short-term construction access.

In summary, the physical effects of the proposed site preparation work are expected to be minimal, local, and primarily associated with short-term construction activities. Temporary increases in noise, construction traffic, and dust are likely during earthwork, and utility installation and may affect nearby residents and recreational users for the duration of construction. Groundwater, surface water, and soil impacts are not anticipated under typical construction controls. In the future, as the improved lots are sold and developed, each lot will have similar short-term construction activities and therefore, similar physical effects. Longer-term benefits will include modernized streets, utilities, and stormwater systems, expanded employment and research land uses associated with URP, and improved infrastructure capacity and site drainage relative to the existing conditions.

5.2 BIOLOGICAL IMPACTS

In the Vetter Parcel, vegetation clearing and selective tree removals will reduce on-site woodland and early-successional habitats and remove individual trees of varying sizes, including some mature oaks and plantation trees documented in the tree inventory. Loss of canopy/understory and lighting may displace local fauna. Disturbance to the intermittent swale could temporarily affect hydrologic connectivity and riparian vegetation. Construction lighting and increased human activity may alter wildlife movement and behavior locally.

The project's tree preservation plan and targeted protection zones are intended to retain portions of the existing woodland and preserve mature trees where practicable. Post-construction landscaping, retention basins with native plantings, and provision of managed open space could create structured habitat and improve ecological function compared with unmanaged, invasive-dominated understory in parts of the existing Vetter Parcel. Where invasive species are controlled, long-term vegetation health and native diversity may improve.

With the addition of the multi-use path within a portion of the Conservancy area, opportunities for native-plantings and invasive-species management can improve long-term ecological function.

5.3 SOCIOECONOMIC IMPACTS

5.3.1 Social

Given the project's scope, magnitude, and duration, some adverse construction impacts are likely despite staging strategies intended to maintain site access and functionality. Construction-period impacts are a normal part of implementing long-term improvements, which are expected to produce lasting beneficial effects.

Short-term impacts that will be present generally before and during construction include:

- Temporary social impacts as nearby residents adjust to construction-related access changes and intermittent disruptions; and
- Temporary traffic near the site to accommodate construction operations, which may increase travel time or effort for local trips.

Long-term outcomes relative to existing conditions following project completion include:

- New streets, utilities, and site infrastructure that increase site service capacity and improve access for future tenants, employees, and visitors;
- Increased traffic near the site as future employees commute to and from URP2 Vetter each workday or from commercial vendors servicing the future development; and
- Future opportunities to increase research and employment capacity provided by the URP development footprint, producing ongoing economic activity tied to tenant operations.

In summary, the project's future socioeconomic effects are expected to be broadly beneficial within the project's regional area, including increased local amenities and infrastructure, and support enhanced connectivity through new streets, sidewalks, and bicycle accommodations. Future development will provide opportunities for increased employment space. New public realm elements and landscaping can improve pedestrian safety and visual character over the long term. Adverse effects from construction noise are expected to be localized and temporary. To minimize noise impacts and comply with City of Madison requirements, motorized equipment and operations will follow applicable state and federal noise regulations. Work proposed outside standard hours (7:00 a.m. to 7:00 p.m. weekdays) will require a noise-ordinance variance from the City of Madison. Furthermore, traffic flow on the surrounding streets is expected to increase as future development progresses.

5.3.2 Economic

Local businesses or landowners immediately adjacent to construction zones could experience short-term disruptions (access limitations, staging impacts) during major construction phases.

A construction investment of approximately $11,686,300 for the initial site preparation is expected to generate direct, indirect, and induced economic activity during the build-out, supporting jobs in construction and professional services. The future development is expected to expand employment capacity, attract businesses, and increase the local tax base. Over time, the project may generate ongoing economic activity through tenant operations, services, and business formation.

Property values adjacent to the Vetter Parcel may change as a result of future development modifying the land use from vacant, fallow former agricultural land to an employment/park subdivision. However, it's uncertain whether property values would increase or decrease as a result of this future development.

5.4 OTHER

5.4.1 Energy and Utilities

Construction of the project will require continued consumption of energy resources, including fossil fuels used by construction vehicles and equipment. Energy consumption will include fuel and electricity to operate equipment and to support material manufacturing. Other electrical needs during construction may include lighting, compressors, and power tools.

New utility infrastructure will provide modern, code-compliant service to the development and adjacent areas. Upgraded stormwater systems and water/sewer mains are likely to improve system reliability and provide capacity for future growth. Where feasible, utility design guided by sustainability principles may reduce long-term energy consumption (efficient lighting, high-efficiency mechanical systems) for the built development.

5.4.2 Archeological and Historical

The proposed activities are not anticipated to adversely affect archaeological or historic sites within or adjoining the project area. The SHPO determined that no eligible historic properties will be affected by the project in the Vetter Parcel or in the Conservancy; the SHPO's finding indicates either that no eligible properties exist within the project area or that identified historic properties would experience no effect from the proposed undertaking.

5.4.3 Hazardous Materials

Impacts associated with hazardous materials or other environmental conditions on-site are not anticipated. The 2025 Phase I ESA records review did not identify RECs on the property and found no records of on-site underground storage tanks. Geotechnical borings did note localized fill and one subsurface sample with a petroleum-like odor; the Phase I ESA and supplemental geotechnical reporting characterize that single observation as isolated and possibly anomalous rather than indicative of widespread contamination.

6.0 PROBABLE ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Construction of the proposed project will produce a set of adverse impacts that are unavoidable during the build-out period. In the short term, construction activities are expected to increase noise levels, may generate fugitive dust, and raise heavy-vehicle traffic volumes on local roads because of materials delivery and equipment movements. With all construction projects, fugitive dust can pose health and nuisance concerns for workers and nearby vegetation; the project will employ standard dust-suppression measures such as periodic watering of exposed soils, covering loads, stabilized construction entrances, and similar BMPs; however, intermittent dust events may still occur during active grading and hauling. Construction hours will generally be confined to standard working periods to limit noise impacts, although approved nighttime or weekend work is possible for some activities, so noise effects will likely be reduced but not entirely eliminated.

An unavoidable consequence of the proposed action is the consumption of energy and materials and the commitment of financial resources for construction and subsequent operation. The project cost is estimated to cost approximately $11,686,300, and ongoing operations and maintenance will generate additional, longer-term resource demands. The project will seek to limit operational impacts through sustainable design measures, but the upfront embodied energy and material use associated with site preparation, utilities, and roadway systems are inherent to development at this scale.

Other short-term unavoidable impacts include temporary disruptions to local traffic patterns and to pedestrian and bicycle routes as construction staging, utility tie-ins, and access reconfiguration proceed. Some established vegetation near existing structures may be removed to facilitate connections or construction access; the 2024 Tree Preservation and Management Plan Addendum maps trees for removal/protection and documents invasive understory and salvage opportunities, although net canopy reduction within the development footprint will be permanent. Street lighting will be designed to conform to City of Madison Outdoor Site and Building Lighting ordinance; despite these measures, nighttime illumination after project completion may be higher than current conditions in some areas.

Future development of the improved lots will adversely impact current traffic volumes on local roads and potentially further reduce the presence of mature trees within those lots.

Taken together, these unavoidable impacts are largely confined to the construction window or represent the permanent change from undeveloped/fallow and wooded land to developed land with paved roadways. While best practices and design choices will reduce the magnitude and duration of many effects, short-term noise, dust, traffic, resource consumption, and some loss of vegetation are expected outcomes of implementing the project.

7.0 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term construction activities will consume some environmental resources and generate temporary disturbances. Earthmoving, utility installation, material delivery, equipment operation, and demolition will use fuel and electricity, generate exhaust emissions, temporarily alter surface drainage, and remove vegetation within the development footprint. These short-term uses are required to install permanent infrastructure—roads, water and sewer mains, and stormwater management facilities—that underpin the site's long-term functionality and productivity.

The project's short-term environmental demands therefore support longer-term benefits that increase regional productivity. New and upgraded utilities improve service capacity and reliability for future tenants, enabling expanded research, clinical, and commercial activity on the URP2 campus. Durable site infrastructure reduces ongoing maintenance burdens and facilitates predictable site access for employees, vendors, and emergency services. Construction spending and associated employment provide an immediate economic stimulus that yields indirect and induced effects in the regional economy, while the completed development can support stable, ongoing jobs, tenant investment, and tax revenues over time.

Where short-term impacts threaten longer-term productivity, the project design and construction program incorporate measures to limit or avoid harm. Temporary erosion and sediment controls, dust-suppression practices, construction traffic management, and staged work sequencing reduce the likelihood that short-term mobilization of soils, sediments, or contaminants will impair downstream water quality or usable soils. Tree protection zones and retention of mature canopy where possible will help preserve vegetation that manages stormwater, regulates microclimate, and improves site amenity, thereby supporting long-term site value and ecological productivity. Sustainable design decisions (energy-efficient systems, low-impact stormwater practices, and durable materials) are intended to reduce operating energy and material demand over the life of the development, offsetting some of the project's initial embodied impacts.

Some tradeoffs are unavoidable: permanent conversion of open/fallow land and portions of woodland to impervious surfaces reduces natural infiltration and habitat area in the footprint. However, properly engineered post-construction stormwater systems, landscape buffering, and habitat enhancements outside the construction footprint can sustain or in some cases improve watershed-level outcomes relative to unmanaged conditions that currently generate uncontrolled runoff and invasive understory growth. Similarly, temporary construction noise, dust, and access disruptions are managed to minimize impacts to neighbors and operations, but these short-term inconveniences enable a future long-term increase in research capacity, facility quality, and economic activity that underpins sustained regional productivity.

In summary, the project's short-term uses of environmental resources are the means by which durable infrastructure and future research capacity are established. Through careful planning, adherence to best management practices during construction, and incorporation of sustainability and landscape recovery measures in final design, the project aims to ensure that temporary environmental costs are balanced by long-term gains in site utility, ecological function where feasible, and future regional economic and research productivity.

8.0 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES IF ACTION IS IMPLEMENTED

8.1 ENERGY

Construction and subsequent operation of the development will require substantial energy inputs that cannot be recovered. Irretrievable energy commitments include the fossil fuels consumed by construction vehicles, earthmoving equipment, and material delivery trucks during the buildout phase and the electricity and fuel embodied in construction materials and processes (manufacture of concrete, steel, asphalt, etc.). The project budget (approximately $11,686,300) represents an investment that will require upstream energy for material production and transportation and on-site energy for construction operations.

8.2 ARCHAEOLOGICAL AND HISTORIC FEATURES OR SITES

Any ground-disturbing activity could permanently alter subsurface archaeological deposits and buried historic-period features. The project area contains documented cultural resources, including the Research Knoll site and mapped nineteenth-century features such as a blacksmith shop and historic homestead locations. The SHPO reviewed the undertaking and issued a determination that no eligible properties will be affected within the Vetter Parcel. This determination reflects that either no eligible historic properties are present within the project footprint or that identified historic properties would not be adversely impacted by the proposed work. No eligible historic properties were identified within the Conservancy area and the SHPO gave concurrence that no eligible properties will be affected.

8.3 OTHER

Many of the resource commitments for the proposed project would be irreversible. “Irreversible” refers to resources that are neither renewable nor recoverable for future use. Construction of the proposed project will result in irreversible or irretrievable commitments of materials and fluids that cannot be fully recovered or recycled, including fuels and other construction-related liquids.

Resources used during construction are anticipated to include concrete, sand, lumber, water, diesel fuel, gasoline, hydraulic fluid, natural gas, asphalt, and metals. None of these resources are expected to be in short supply relative to the size and location of the project. Some items, such as sand, metal piping, and asphalt, could be reused or recycled if the facility were ever demolished, but initial consumption and incorporation represent an irreversible commitment.

The proposed project will also require an irretrievable allocation of human and financial resources that will not be available for other endeavors. These are sunk costs and cannot be recovered; however, the commitment of these resources is consistent with the project’s purpose and need and was judged preferable to the identified alternatives.

9.0 ALTERNATIVES

A “No-Action” alternative and several engineered design alternatives for the proposed project are described below and were evaluated for their merits and impacts. The design approach presented in this report and in the most recent design documents was selected as the preferred alternative.

No-Action Alternative

Under the No-Action Alternative the site would remain in its current condition as vacant/fallow agricultural land with existing woodlots left intact and no new infrastructure installed. This approach would avoid the construction-period impacts associated with grading, utility installation, and roadway construction and would preserve the site’s current vegetation. The principal disadvantage is that it would forgo the URP program benefits, roadway and utility improvements, future leasable employment parcels, and future long-term economic and research capacity, and would leave existing unmanaged runoff and maintenance issues unaddressed. In addition, a No-Action alternative would not align with the recommendations for the subject site contained in the Mid-Town Neighborhood Development Plan as amended in 2011, which recommends employment uses for most of the subject site, particularly research and development uses, including offices, business incubators, testing facilities, and certain specialized non-nuisance manufacturing activities as an extension of University Research Park.

Alternative with Reduced Development Area

An alternative was considered that would preserve a larger portion of the wooded areas along the western and southwestern portions of the property by reducing or reconfiguring the employment lots. This option would reduce impacts to existing woodland and potentially reduce grading within the western portion of the site. However, it would result in less usable employment land, less efficient lot layouts, and greater constraints on the placement of streets, utilities, stormwater facilities, and private paths.

Alternative with Reduced Grading Footprint

A reduced-grading alternative was considered that would limit development to areas with more favorable existing topography and avoid some steeper or more environmentally sensitive portions of the site. This option would reduce earthwork and potentially lessen short-term construction impacts, but would require smaller or more irregular lots, increased retaining or stormwater infrastructure, and a less efficient street and utility network.

Alternative with Phased Infrastructure and Development

A phased infrastructure alternative was also considered, under which Boyer Street, utilities, paths, and stormwater facilities would be constructed in stages as individual employment lots are developed. Phasing could reduce the extent of initial disturbance and defer some infrastructure costs. However, it would complicate the installation of a coordinated public street and utility system, potentially require temporary access and stormwater measures, and could result in repeated disturbance to portions of the site.

Proposed Action (Preferred Alternative)

The proposed project went through multiple iterations and solicited input throughout the design process to adequately identify, address, and implement project components while balancing the overall needs and goals of the area.

The Proposed Action proceeds with the current site-preparation and planned URP2 build-out. Current preparatory work includes roughly 39 acres of mass grading and about 3,800 linear feet of roadway, while the plan retains a 25-acre Conservancy in the southwest and establishes a 100-foot tree preservation and landscape buffer along the western property line during the site-preparation phase. The project implements the Tree Preservation and Management Addendum mapping for trees and woodlots to be protected, removed, or left undisturbed and applies the protection measures therein (fencing, signage, no-trench zones, and directional boring where

required). This alternative delivers the intended infrastructure, future workforce and research capacity, and partial on-site conservation.

The Proposed Action, coupled with the City of Madison Planning Division's Staff Report required conditions, represents a balance between URP2 development goals and conservation measures. City staff explicitly required that the Tree Preservation and Management Plan be revised to reflect the replat, that a 100-foot tree preservation and landscape buffer be shown on the final plat, that disturbance within easements be limited, and that utilities be routed or adjusted to avoid mature tree cover where practicable. These conditions narrow the range of practicable project implementations and shape a preferred approach that combines infrastructure delivery with mapped conservation measures.

10.0 LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone Environmental Group, LLC - A Tetra Tech Company shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

APPENDIX A: FIGURES

Figure 1 – Project Location and Existing Conditions

Figure 2 – Proposed Site Overview

Figure 3 – Proposed Boyer Street Plan and Profile (5 pages)

Figure 4 – Proposed Ancient Oak Lane Plan and Profile (3 pages)

Figure 5 – Topography

Figure 6 – Soil Map

Figure 7 – Surface Water Data Viewer Mapped Wetlands and Indicator Soils

Figure 8 – Flood Hazard Information Map

Figure 9 – RR Sites Map

Figure 1 - Project Location and Existing Conditions

University Research Park 2 Vetter Parcel
DFD Project # 25H4I

Southwest of intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin.

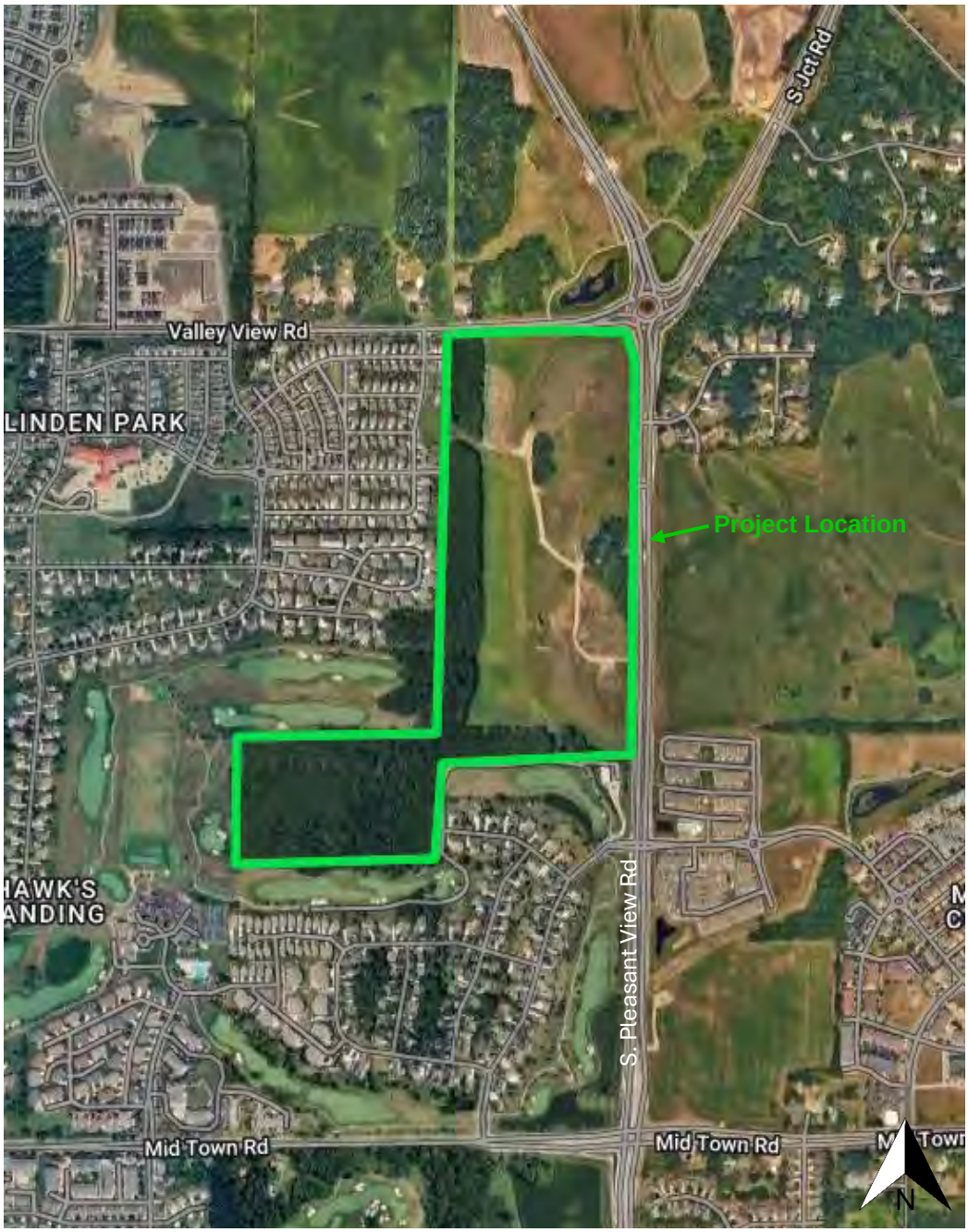
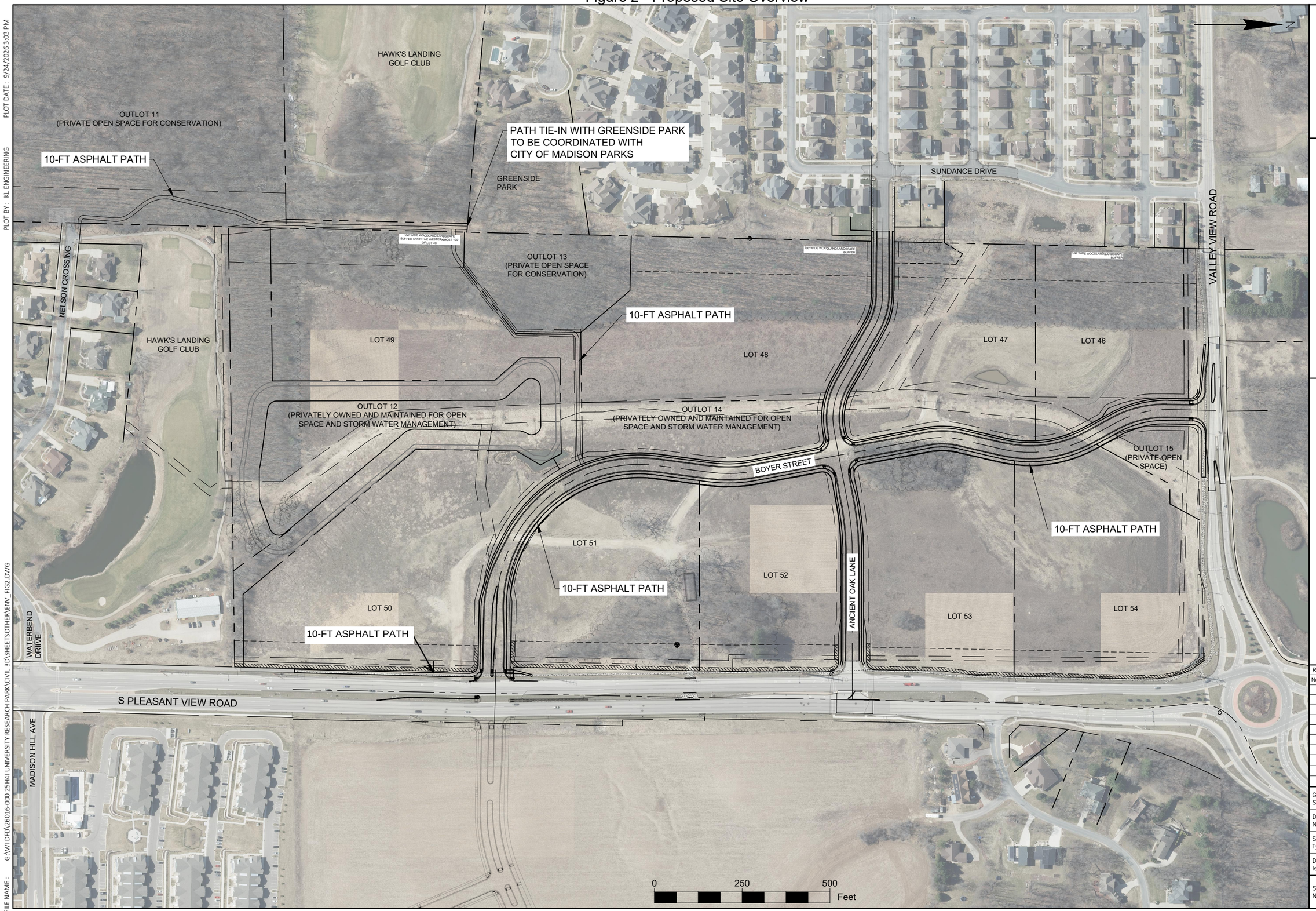


Figure 2 - Proposed Site Overview



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MADISON, WI

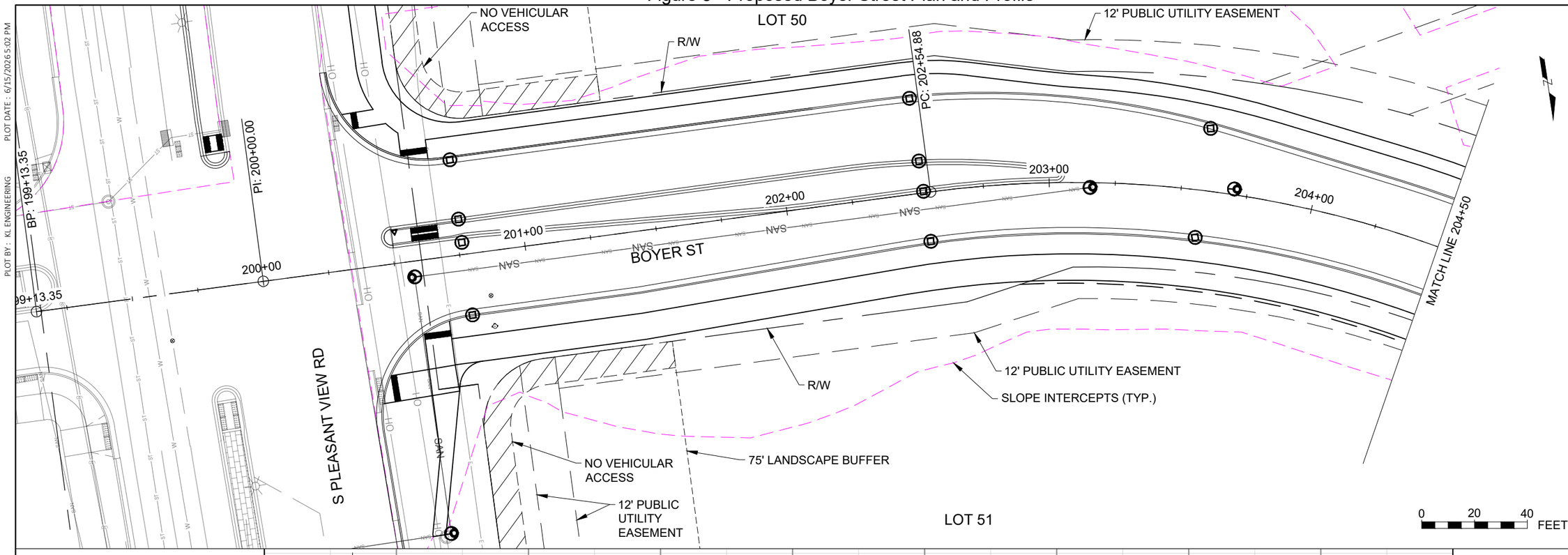
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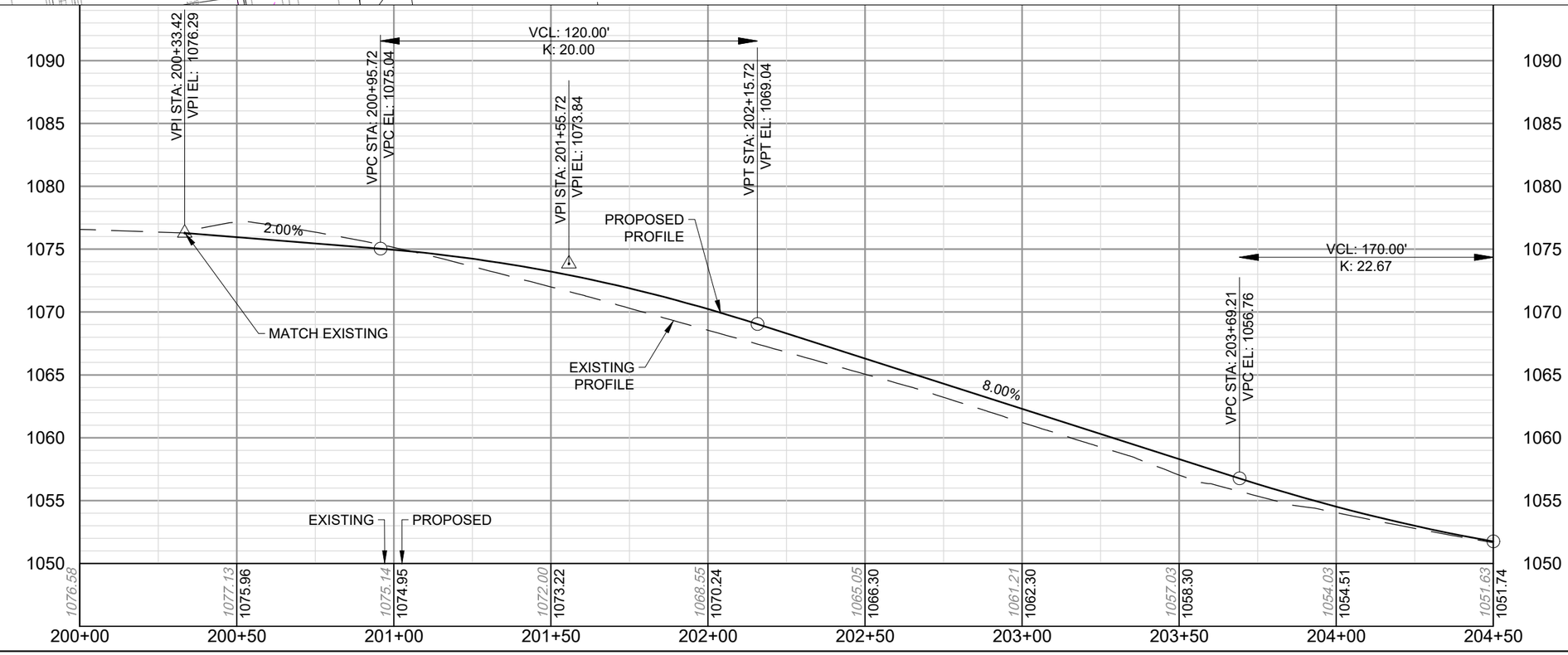
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Figure 3 - Proposed Boyer Street Plan and Profile





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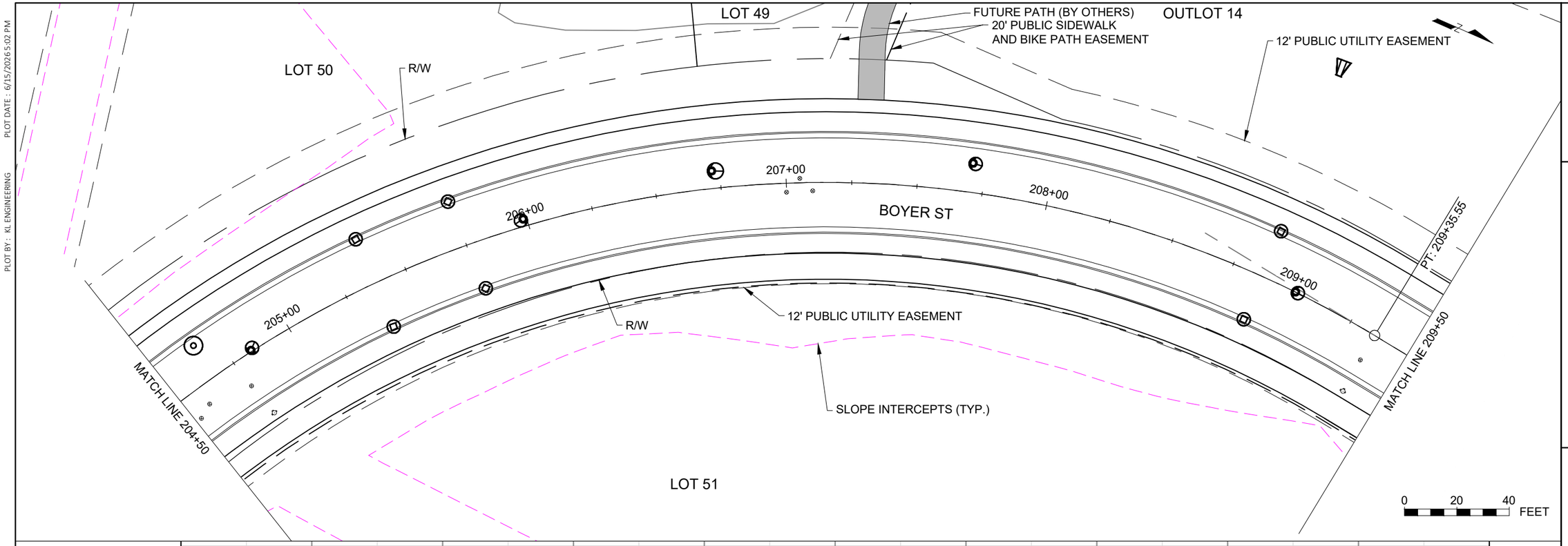
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Figure 3 - Proposed Boyer Street Plan and Profile (Continued)



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Sheet Title:
BOYER STREET PLAN AND PROFILE 2

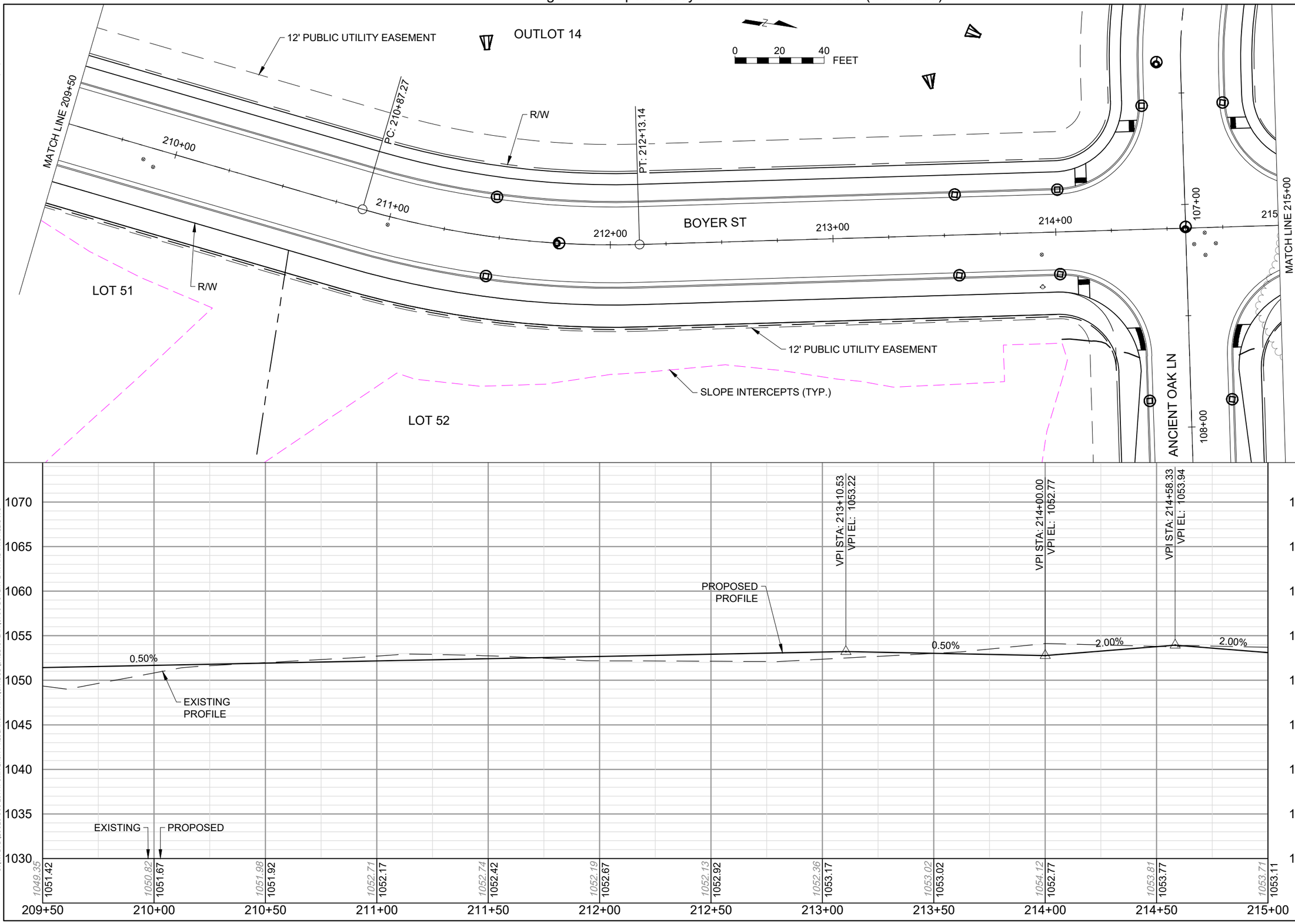
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Figure 3 - Proposed Boyer Street Plan and Profile (Continued)



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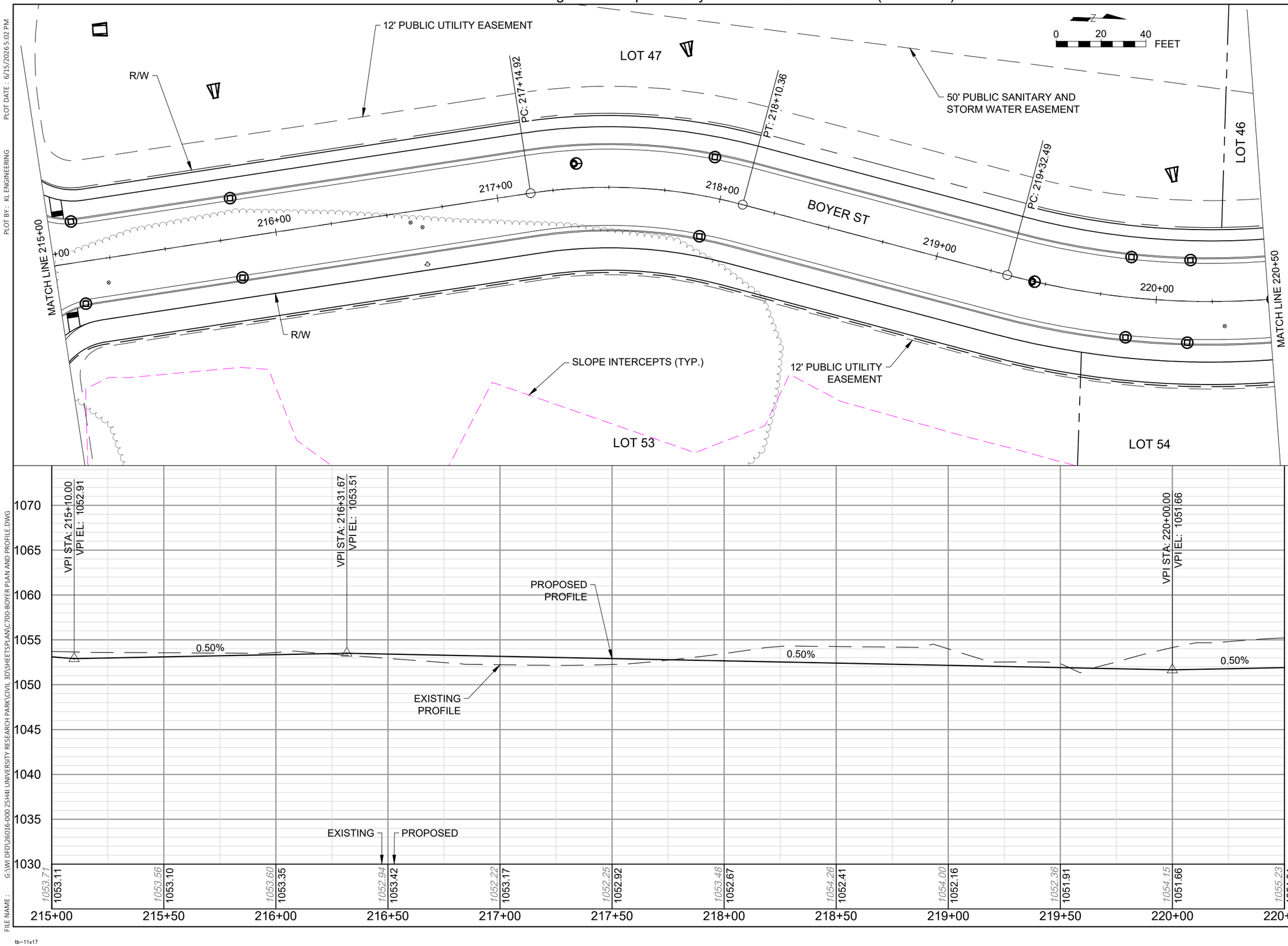
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BOYER STREET PLAN AND PROFILE 3

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Figure 3 - Proposed Boyer Street Plan and Profile (Continued)



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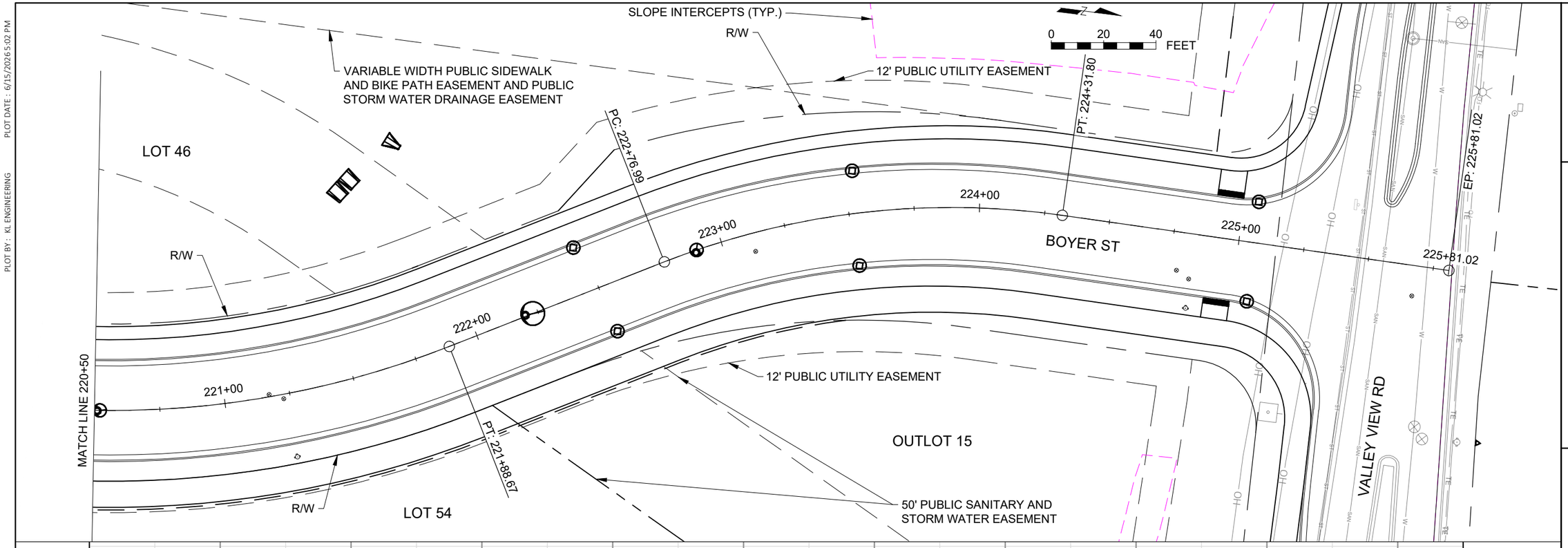
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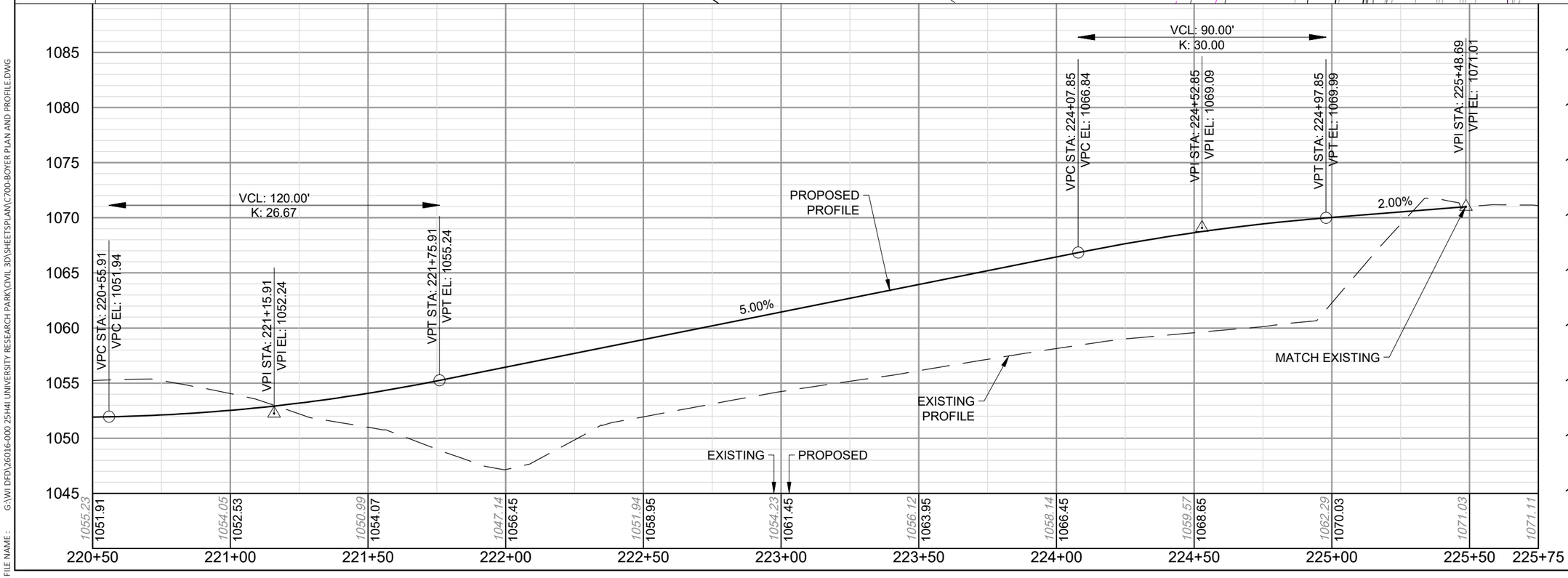
Revisions:

No.	Date:	Description:

Graphic Scale	SEE PLAN
DFD Number	25H4I
Set Type	PR
Date Issued	06/16/26
Sheet Number	C703

Figure 3 - Proposed Boyer Street Plan and Profile (Continued)





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Department of Administration
Division of Facilities Development

VETTER PARCEL
MADISON, WI, 53719

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MADISON, WISCONSIN

Sheet Title:
BOYER STREET PLAN AND PROFILE 5

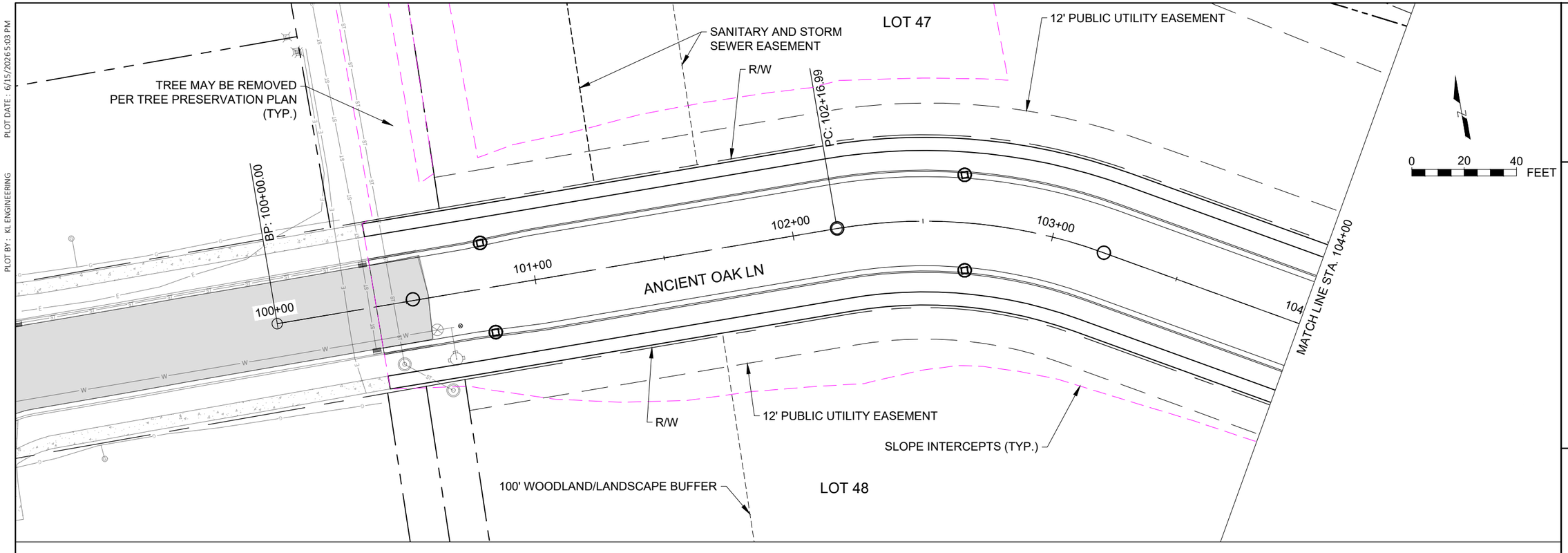
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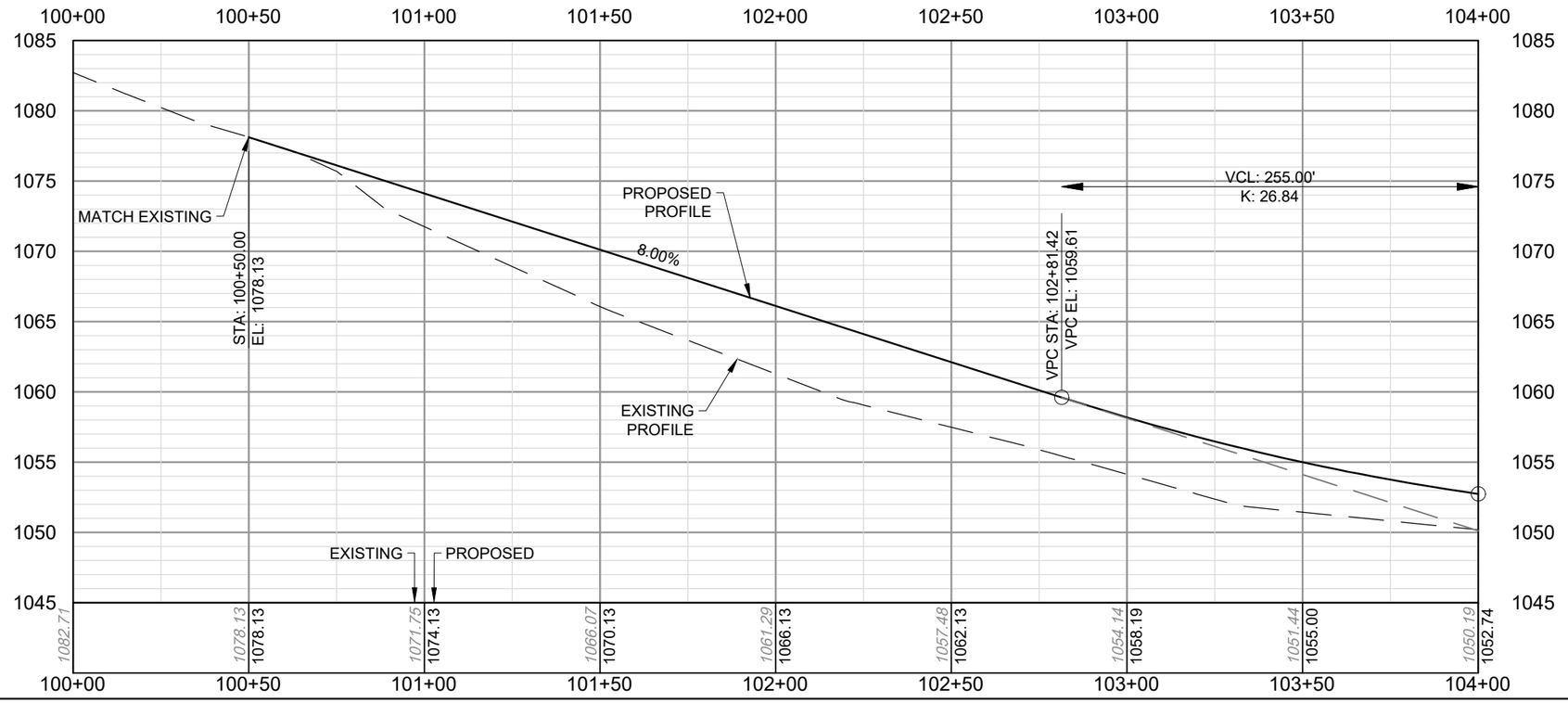
No.	Date:	Description:

Graphic Scale	SEE PLAN
DFD Number	25H4I
Set Type	PR
Date Issued	06/16/26
Sheet Number	C704

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PLOT BY : KL ENGINEERING
FILE NAME : G:\WI DFD\26016-000 25H4I UNIVERSITY RESEARCH PARK\CIVIL 3D\SHEETS\PLAN\C700-BOYER PLAN AND PROFILE.DWG
tb-11x17

Figure 4 - Proposed Ancient Oak Lane Plan and Profile





PLOT DATE : 6/15/2026 5:03 PM
PLOT BY : KL ENGINEERING
FILE NAME: G:\WI DFD\26016-000 25H4I UNIVERSITY RESEARCH PARK\CIVIL 3D\SHEETSPLAN\C710-ANCIENT OAK PLAN AND PROFILE.DWG

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UNIVERSITY OF WISCONSIN
MADISON, WISCONSIN

Sheet Title:
ANCIENT OAK LANE PLAN & PROFILE

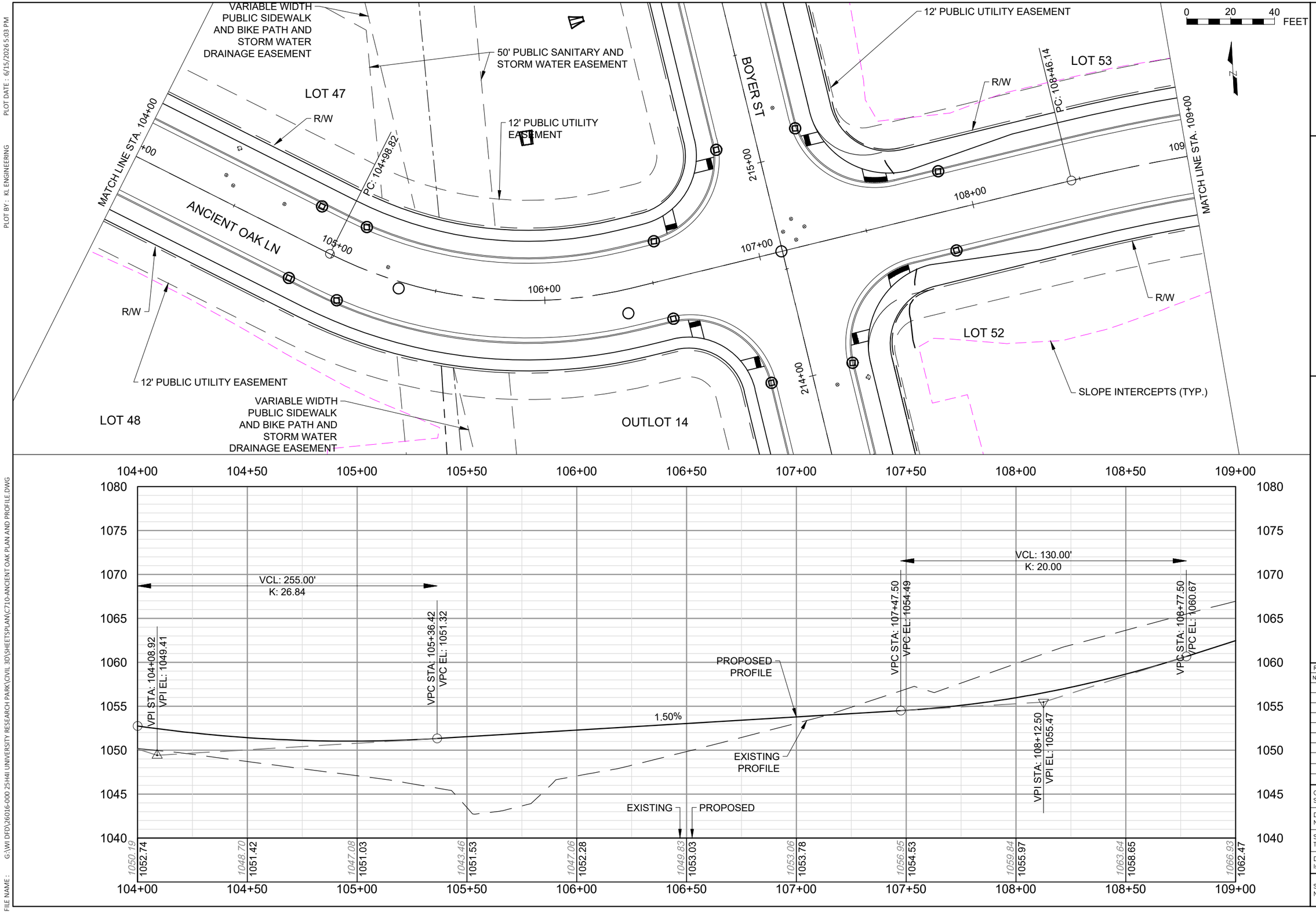
Revisions:

No.	Date:	Description:

Graphic Scale	SEE PLAN
DFD Number	25H4I
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Date Issued	06/16/26
Sheet Number	C710

tb-11x17

Figure 4 - Proposed Ancient Oak Lane Plan and Profile (Continued)



PLOT DATE : 6/15/2026 5:03 PM
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FILE NAME: G:\WI DFD\26016-000 25H4I UNIVERSITY RESEARCH PARK\CIVIL 3D\SHEETSPLAN\C710-ANCIENT OAK PLAN AND PROFILE.DWG
tb-11x17

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VETTER PARCEL
MADISON, WI 53719

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UNIVERSITY RESEARCH PARK 2
UNIVERSITY OF WISCONSIN
MADISON, WISCONSIN

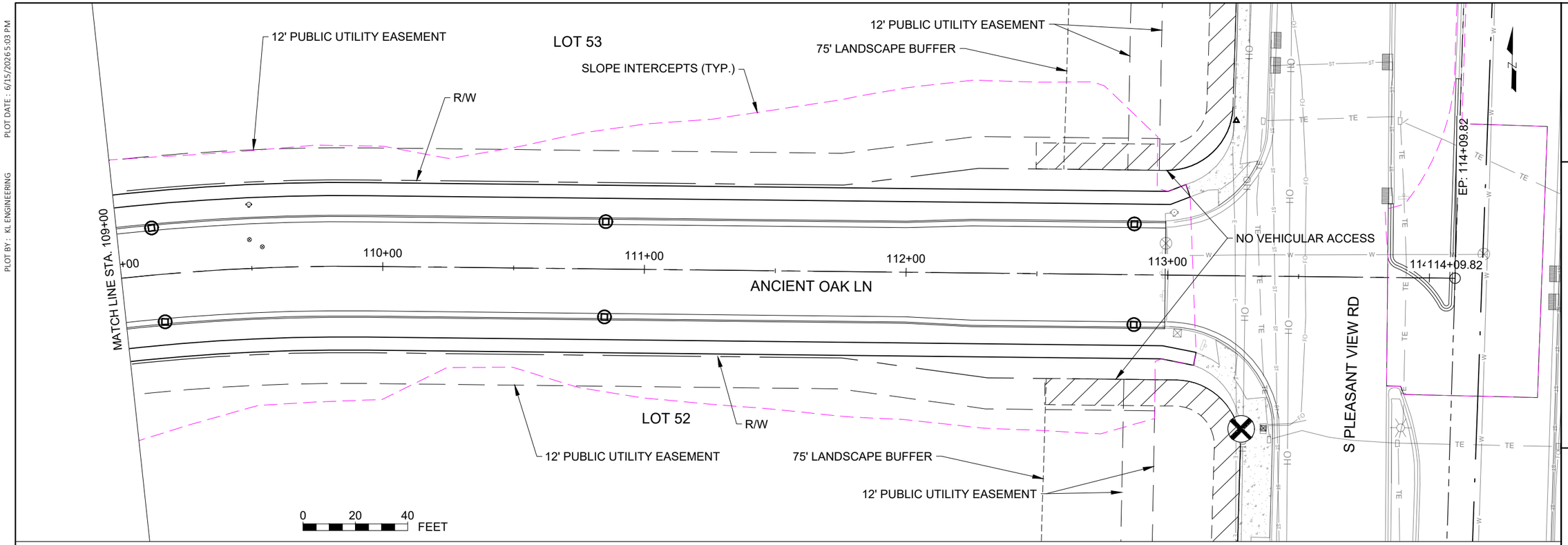
Sheet Title:
ANCIENT OAK STREET LANE & PROFILE

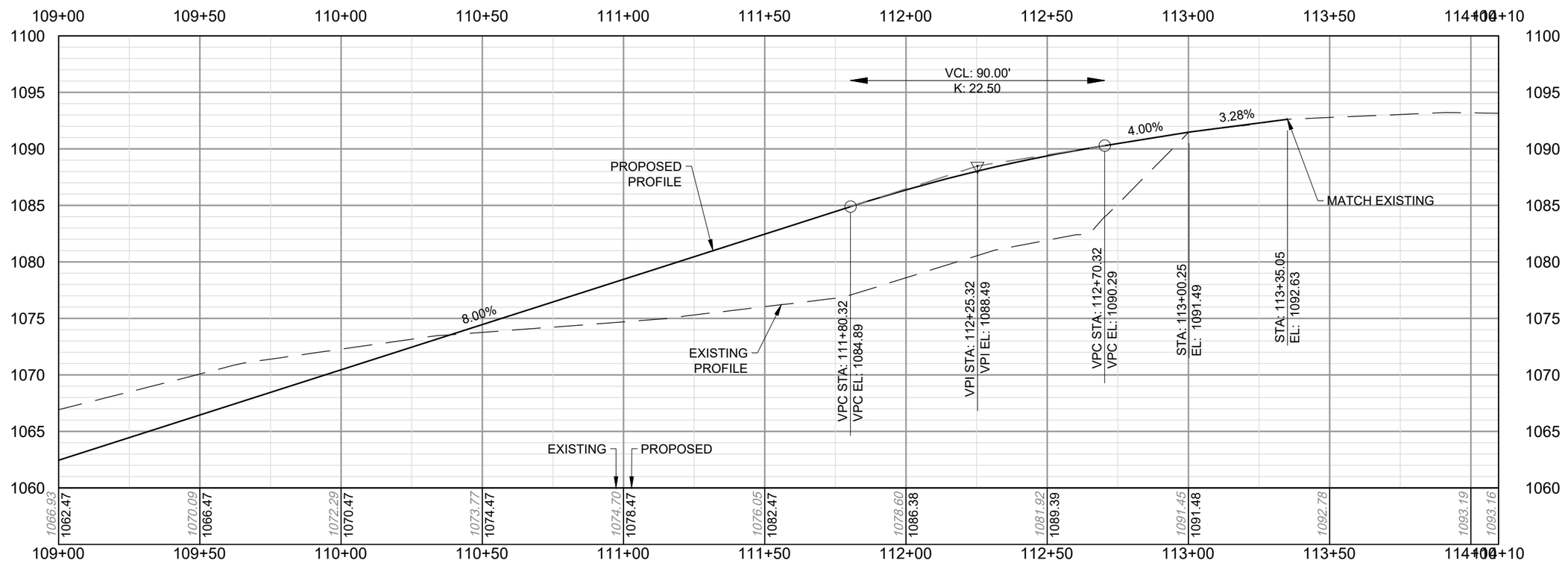
Revisions:

No.	Date:	Description:

Graphic Scale	SEE PLAN
DFD Number	25H4I
Set Type	PR
Date Issued	06/16/26
Sheet Number	C711

Figure 4 - Proposed Ancient Oak Lane Plan and Profile (Continued)





PLOT DATE : 6/15/2026 5:03 PM
PLOT BY : KL ENGINEERING
FILE NAME: G:\WI DFD\26016-000 25H4I UNIVERSITY RESEARCH PARK\CIVIL 3D\SHEETSPLAN\C710-ANCIENT OAK PLAN AND PROFILE.DWG
tb-11x17

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State of Wisconsin
Department of Administration
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VETTER PARCEL
MADISON, WI 53719

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UNIVERSITY RESEARCH PARK 2
UNIVERSITY OF WISCONSIN
MADISON, WISCONSIN

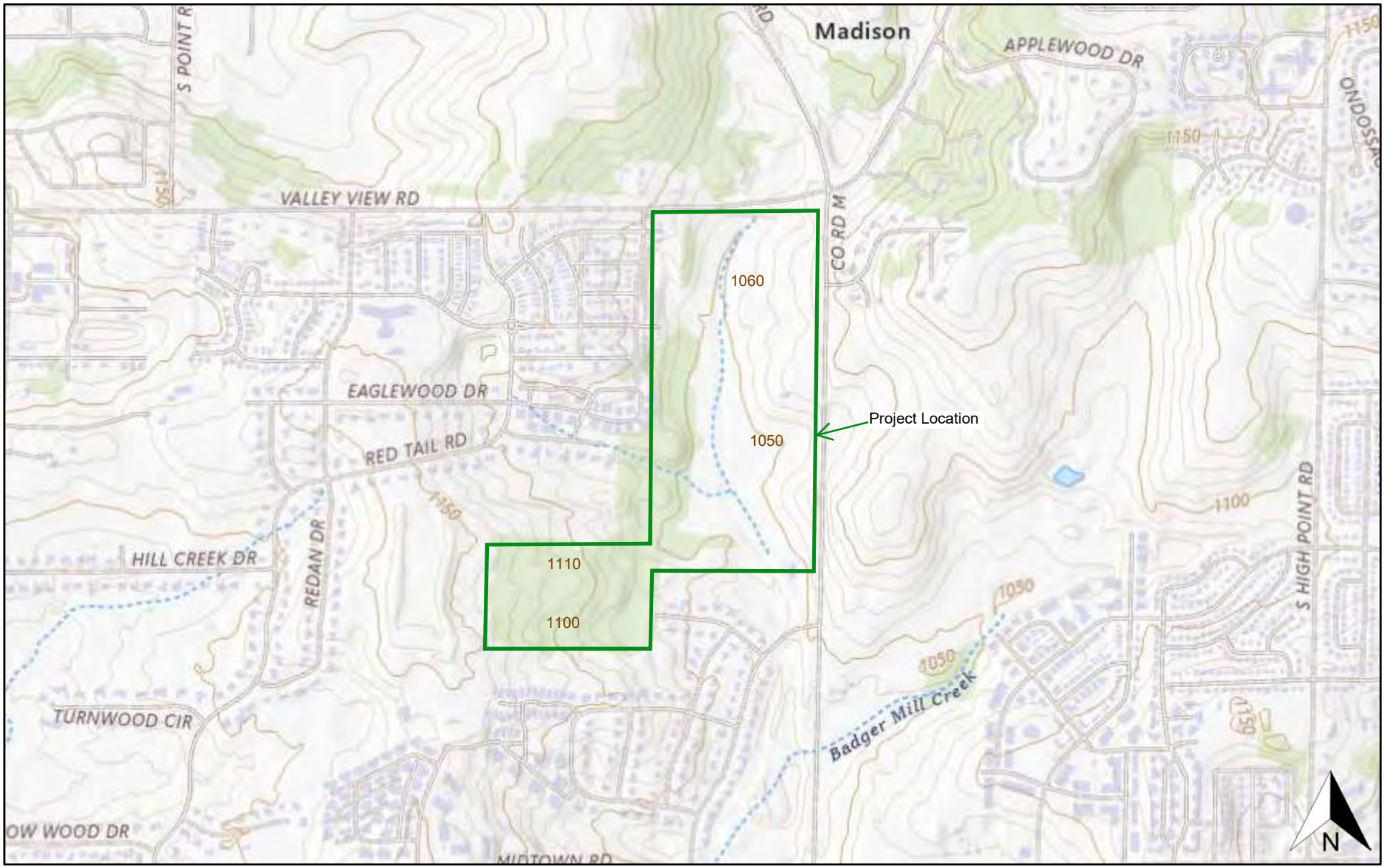
Sheet Title:
ANCIENT OAK LANE PLAN & PROFILE

Revisions:

No.	Date:	Description:

Graphic Scale	SEE PLAN
DFD Number	25H4I
Set Type	PR
Date Issued	06/16/26
Sheet Number	C712

Figure 5 - Topography



3/23/2026

USGSTopo

Red: Band_1

Green: Band_2

Blue: Band_3

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography

Soil Map—Dane County, Wisconsin
Figure 6



Map Scale: 1:6,160 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 24, Sep 10, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

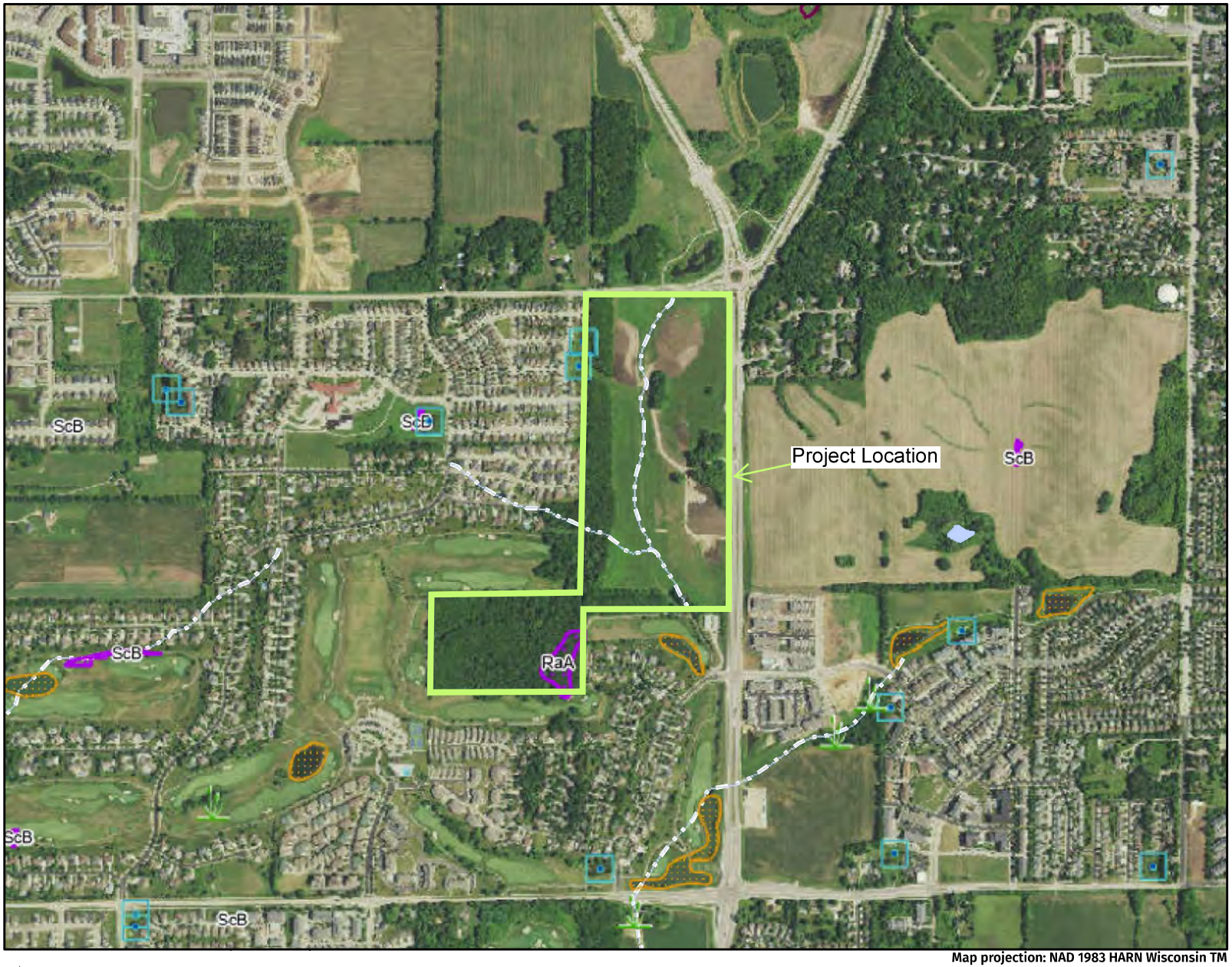
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7105B	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	3.1	2.9%
7124B	Dodge silt loam, 2 to 6 percent slopes	6.4	6.1%
7124C2	Dodge silt loam, 6 to 12 percent slopes, eroded	36.7	35.0%
7197A	Troxel silt loam, 0 to 3 percent slopes	28.5	27.2%
7243C2	St. Charles silt loam, 6 to 12 percent slopes, eroded	8.5	8.1%
7310D2	McHenry silt loam, 12 to 20 percent slopes, eroded	0.4	0.4%
7363C	Griswold loam, 6 to 12 percent slopes	2.6	2.5%
7374A	Radford silt loam, 0 to 3 percent slopes	2.1	2.0%
7748B	Plano silt loam, gravelly substratum, 2 to 6 percent slopes	9.2	8.8%
7961D2	Kidder soils, 10 to 20 percent slopes, eroded	7.4	7.0%
Totals for Area of Interest		**104.8**	**100.0%**

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Figure 7 - Surface Water Data Viewer

Mapped Wetlands and Indicator Soils



Legend: (some map layers may not be displayed)

Wetland Class Points
- Excavated pond
- Wetland too small to delineate
- Wetland Class Areas
- Wetland Indicators
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water
- Latest Leaf On Index
- Latest Leaf On Imagery

Notes:



Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 1,000 2,000 Feet
0 350 700 Meters

Service Layer Credits:
Wetland Indicators & Soils^: Surface Water Data Viewer Team, DNR Basic Feature VTL (WTM): Wisconsin Department of Natural Resources, GIS Section, Surface Water: WiDNR, USGS, and other data, Latest Leaf On: , Wetland Inventory NWI (Cached):

This map is a product generated by a DNR web mapping application.

This map is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose user agrees to be bound by all disclaimers found here: https://dnr.wisconsin.gov/legal.

Date Printed: 3/10/2026 9:17 AM

89°33'45.88"W 43°4'54.46"N

Figure 8 - Flood Hazard Information Map



89°29'59.17"W 43°0'43.1"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

LINK> </CLR>for official maps and additional

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

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

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on 3/10/2026 6:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: No elevation features on this FIRM
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 1,000 feet 1:12,000

0 500 1,000 2,000 3,000 4,000 Feet

0 105 210 420 630 840 Meters



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

PANEL 395 OF 832

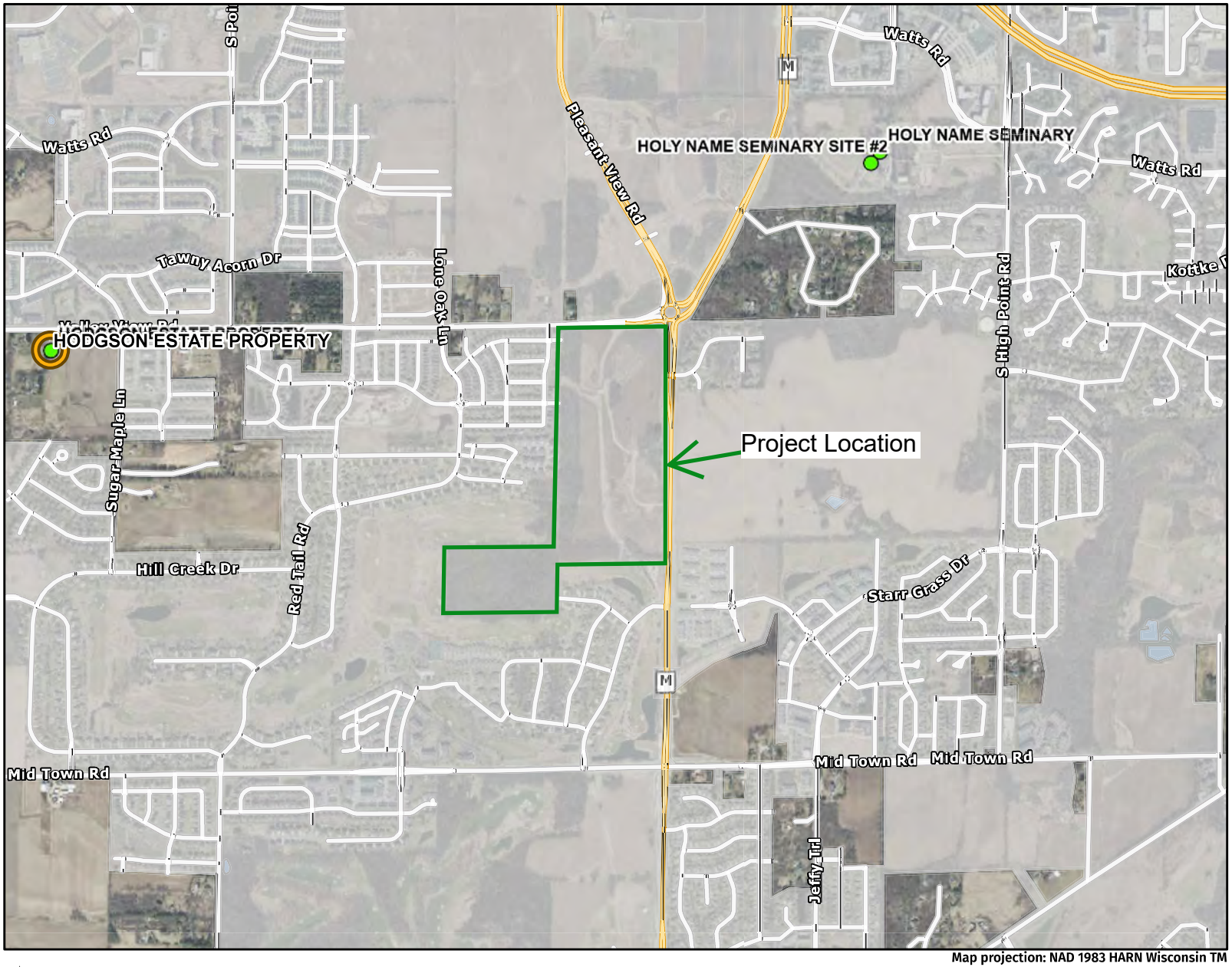
Panel Contains:

COMMUNITY	NUMBER	PANEL
DANE COUNTY	550077	0395
CITY OF MADISON	550083	0395

MAP NUMBER
55025C0395G
EFFECTIVE DATE
January 02, 2009

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Figure 9 - RR Sites Map



Legend: (some map layers may not be displayed)

- Closed Activity
- Latest Leaf Off Imagery

Notes:



Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 1,000 2,000 Feet
0 475 950 Meters

Service Layer Credits:
RR Core Layers: Wisconsin Department of Natural Resources, Environmental Management Division - Bureau of Remediation and Redevelopment, RR Additional Layers: Wisconsin Department of Natural Resources, Environmental Management Division - Bureau of Remediation and Redevelopment, DNR Basic Feature Transparent Style VTL (WTM): Wisconsin Department of Natural Resources, DNR: WI Latest Leaf-off Airphoto Tiled Imagery Service (WTM):

This map is a product generated by a DNR web mapping application.

This map is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose user agrees to be bound by all disclaimers found here: https://dnr.wisconsin.gov/legal.

Date Printed: 3/10/2026 5:07 PM

APPENDIX B: SCOPING LETTER AND DISTRIBUTION LIST

Scoping Letter, February 19, 2026

- Site Map
- Comment Form

Scoping Letter Distribution List, February 19, 2026

TETRA TECH

February 19, 2026

Re: University Research Park 2 Vetter Parcel
DFD Project # 25H4I

Dear Potentially Interested Party:

The State of Wisconsin Department of Administration, Division of Facilities Development (DFD) has retained Cornerstone Environmental Group, a Tetra Tech company, on behalf of the University of Wisconsin System Administration to prepare an Environmental Impact Assessment (EIA) of the proposed University Research Park (URP2) Vetter Parcel. The EIA will be prepared in accordance with the Wisconsin Environmental Policy Act (WEPA), Wisconsin Statutes 1.11, and University of Wisconsin System Administration (UWSA) guidelines. An initial component of this EIA is the scoping process to identify at an early stage any potential impacts of the project on the physical, biological, social, and economic environments. Because you, your agency, or group may have an interest in the project, or are representing neighbors near the project vicinity, we are inviting you to participate in the scoping process.

Known project components and identification of potential impacts to be studied in the EIA will be collected at this early phase of design development. All identified stakeholders will be afforded a reasonable opportunity to identify in writing any support, issues, or concerns they believe should be addressed during the EIA process for this proposed project.

URP, an independent 501(c)3 and a University of Wisconsin-Madison affiliate, is an internationally recognized research and technology park that supports early-stage, and growth-oriented businesses in a range of sectors, including engineering, computational, and life sciences. URP's mission is to support the continued commercialization of UW-Madison research, technology, and entrepreneurship. Development of URP2 is intended to meet the demand from potential URP users, ahead of which URP intends to build the infrastructure necessary to prepare URP2 for future development. Like its existing campus, URP2 will serve expanding local, state, national and international life science-focused users, especially those using UW-Madison derived technology and employing alumni and recent graduates.

This project will design and construct public improvements, enhanced stormwater management facilities, and support the ongoing development of URP2 Vetter Parcel located at the southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin. Project work consists of design and construction of site improvements to include site preparation, erosion control, stripping existing topsoil, mass grading, stormwater management, fine grading, public utilities, base course, roadway section with curb and gutter, sidewalk, street lighting, private utilities, multi-use path and site restoration (approximately 43 acres of mass grading disturbance and 3,900 LF of roadway). Upon completion, URP will market fully improved lots and negotiate tenant/buyer/URP responsibilities to be captured in final real estate development purchase or lease agreement(s) as users and/or buyers are identified.

Impacts that are identified during this process will be incorporated into a draft EIA report which will be made available to the public for a minimum of 15 days as a review period and will be circulated to appropriate federal,

Tetra Tech
8040 Excelsior Drive, Suite 305, Madison, WI 53717
Tel +1.877.294.9070 **Fax** +1.877.845.1456 | tetratech.com

state, and local agencies. Comments and inquiries of the draft EIA document and a recommendation on the findings of the EIA will be developed for release as either *the project does not significantly affect the quality of the human environment* or as a *Major and Significant Action* thereby requiring the preparation of an Environmental Impact Statement (EIS).

If you are interested in this project or have any information relevant to it, we welcome your comments, suggestions, or other input by March 20, 2026, to be considered in the draft EIA. Comments received after that date will be considered in preparation of the final EIA. The Draft EIA is anticipated to be released in late April 2026. Related information and a comments form can be obtained via the project website at: https://www.UniversityResearchParkIIVetterEIA.com/.

Send your comments to:

Aden Clark
8040 Excelsior Drive, Suite 305
Madison, WI 53717
aden.clark@tetratech.com

If no comments are received from you or your agency, we will assume there are no project issues that negatively impact you. You will have additional opportunities to provide comments during the upcoming public comment period and public meeting. If you have any questions or concerns regarding this process, please contact Aden Clark at (608) 422-9083.

Sincerely,

CORNERSTONE ENVIRONMENTAL GROUP, LLC – A TETRA TECH COMPANY

Teri Daigle
Sr. Project Manager

Aden Clark
Engineer

Enclosure: Attachment A: Site Map
Attachment B: Comment Form

Site Map

University Research Park 2 Vetter Parcel
DFD Project # 25H4I

Southwest of intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin.



TETRA TECH

COMMENT FORM

Environmental Impact Assessment Scoping Process
University Research Park II – Vetter Parcel
DFD Project # 25H4I

I have the following comments regarding this project and items to be considered as part of the scoping process:

[Please write comment(s) here. Attach additional pages if necessary.]

Please complete the following information and sign if submitting comments:

Name: _____

Title/Representing: _____

Address: _____

Telephone Number: _____

E-mail Address (optional): _____

Signature: _____

☐ I am interested in continuing my involvement in the public participation components of this project. Please continue to send me project notices.

☐ I am NOT interested in continuing my involvement in the public participation of this project. Please do NOT continue to send me project notices.

Please return this form by **March 20, 2026**, to:

Aden Clark
Tetra Tech
8040 Excelsior Drive, Suite 305
Madison, WI 53717
aden.clark@tetratech.com

Distribution List

WEPA Compliance Document Distribution List
University Research Park 2 – Vetter Parcel
University of Wisconsin – Madison
DFD Project # 25H4I

M = Mailed a hard copy
E = emailed an electronic copy of website notice
ND = not distributed

Contact Name	Organization	Address Line 1	Address Line 2	City	State	Zip	Email Address	Document Distribution			
								Scoping	DEIS	FEIS	ROD
University of Wisconsin System											
Deej Lundgren	UW System Administration	780 Regent Street	Suite 239	Madison	WI	53715	deej.lundgren@wisconsin.edu	M/E	M/E	M/E	M/E
Don Keck	Office of Capital Planning and Budget	780 Regent Street	Suite 239	Madison	WI	53715	donald.keck@wisconsin.edu	E	E	E	E
University Research Park											
David Cleary	URP Site & Civil Project Director	505 S. Rosa Road	Suite 201	Madison	WI	53719	david.cleary@wisc.edu	M/E	M/E	M/E	M/E
Aaron Olver	URP Managing Director	505 S. Rosa Road	Suite 201	Madison	WI	53719	aaron.olver@wisc.edu	E	E	E	
Paul Muench	URP Associate Director	505 S. Rosa Road	Suite 201	Madison	WI	53719	pdmuench@wisc.edu	E	E	E	
Quinlan Purkey	URP Staff Attorney	505 S. Rosa Road	Suite 201	Madison	WI	53719	quinlan.purkey@wisc.edu	E	E	E	
Neighborhood Associations/Village											
Shane Prichard	Hawk's Landing Homeowners Association	PO Box 930373		Verona	WI	53593	hlhaboardmembers@gmail.com	E	E	E	
Austin Krueger	Cardinal Glenn Neighborhood Association						austin.krueger@gmail.com	E	E	E	
David Huntsman	Applewood Homeowners Association						ddhuntsman@gmail.com	E	E	E	
Matt Brink	Hill Valley (Proposed Development)						mbrink@veridianhomes.com	E	E	E	
	Linden Park Neighborhood Association						https://www.lindenparkna.org/contact/	E	E	E	
	Upper Sugar River Watershed Association						info@uppersugar.org	E	E	E	
Design Architect/Engineer											
Kristy Treichel	KL Engineering, Inc.	5400 King James Way	Suite 200	Fitchburg	WI	53719	kristy.treichel@klengineering.com	E	E	E	E
Samantha Herheim	KL Engineering, Inc.	5400 King James Way	Suite 200	Fitchburg	WI	53719	sam.herheim@klengineering.com	E	E	E	E
Federal Government Agencies											
Governor Tony Evers	State of Wisconsin	115 East Capitol St.	PO Box 7863	Madison	WI	53702	govinfo@wisconsin.gov	E	E	E	
Rep. Mike Bare	State of Wisconsin - State Assembly (District 80)		PO Box 8952	Madison	WI	53708	Rep.Bare@legis.wisconsin.gov	E	E	E	
Sen. Dianne Hesselbein	State of Wisconsin - State Senate (District 27)		PO Box 7882	Madison	WI	53707	Sen.Hesselbein@legis.wisconsin.gov	E	E	E	
State Government Agency Contacts											
Brenden Johnson	Dept. of Administration, Div. of Facilities Development – Project Manager	101 E. Wilson Street	PO Box 7866	Madison	WI	53707	Brenden.Johnson1@wisconsin.gov	E	E	E	E
Naomi de Mers	Dept. of Administration, Div. of Facilities Development – Administrator	101 E. Wilson Street	PO Box 7866	Madison	WI	53707	Naomi.demers@wisconsin.gov	E	E	E	
Dane County											
Laura Hicklin	Land & Water Resources - Director	5201 Fen Oak Drive	Room 208	Madison	WI	53718	lwrd@countyofdane.com	E	E	E	
Melissa Agard	County Executive	210 Martin Luther King Jr. Blvd	City County Bldg., Room 421	Madison	WI	53703	county.executive@danecounty.gov	E	E	E	
City of Madison											
Meagan Tuttle	City of Madison Planning Dept. - Director	215 Martin Luther King Jr Blvd	Madison Municipal Bldg., Suite 017 (LL)	Madison	WI	53703	MTuttle@cityofmadison.com	E	E	E	
John W. Duncan	Alder District 1, City of Madison	215 Martin Luther King Jr Blvd	City County Bldg., Room 505	Madison	WI	53703	District1@cityofmadison.com	E	E	E	
Local Libraries											
Helen C. White Library	UW-Madison Library	600 N. Park Street		Madison	WI	53706			M	M	
Madison Public Library	Central Branch Reference Desk	201 W. Mifflin Street		Madison	WI	53703			M	M	

APPENDIX C: PUBLIC COMMENTS RECEIVED

Email from David Handowski (Hawks Reserve HOA) to Aden Clark (Tetra Tech), February 23, 2026

Email from Kathleen McDermott (Bentley Green) to Aden Clark (Tetra Tech), February 26, 2026

Letter Attachment

Email from Susan Udelhofen (Bentley Green Condominium Board) to Aden Clark (Tetra Tech), February 26, 2026

Letter Attachment

Letter from Richard and Cheryl Murray (Bentley Green) to Aden Clark (Tetra Tech), March 3, 2026

Letter from Maria Garcia (Bentley Green) to Aden Clark (Tetra Tech), March 5, 2026

From: David Handowski
To: Clark, Aden
Subject: Conservancy Area Fwd: University Research Park Vetter Parcel EIA
Date: Monday, February 23, 2026 5:49:31 AM

You don't often get email from davidhandowski@yahoo.com. Learn why this is important

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

Mr Clark,

I just received this email and notification of an effort being undertaken on behalf of URP.

I am extremely interested, and concerned, regarding the area marked “Conservancy” marked on the SW corner. This area had been marked as such for a number of years as a conservancy area and it is now included in an overall section to be evaluated with the University Research Park plan. I am familiar with the URP plan and have been for several years as I was involved with a City of Madison local area Neighborhood Development Plan.

I would like to better understand any potential of its ‘evaluation’ in this effort and any possible plans, feasibility considerations, and to provide comment on the objectives and impacts to neighborhoods, wildlife, drainage, etc. of the overall project but to the “Conservancy” area in particular.

I am traveling currently and do not a means of physically printing or scanning the doc.

Name: David Handowski
Representing: Hawks Reserve HOA (and coordinating neighbors in Hawks Landing Neighborhood)
Address: 9016 Royal Oaks Circle, 53593
Phone: 608-770-4909
Email: davidhandowski@yahoo.com
Signature: (electronic). David J Handowski

XX I am interested in continuing my involvement in the public participation components of this project. Please continue to send me project notices.

Please confirm that this email is sufficient for receiving more information regarding this project.

Thank you

David Handowski

Begin forwarded message:

From: "Jack P." <clpjjp@yahoo.com>
Subject: University Research Park Vetter Parcel EIA

Date: February 21, 2026 at 11:24:20 AM MST
To: David Handowski <davidhandowski@yahoo.com>
Reply-To: "Jack P." <clpjjp@yahoo.com>

Hi David

I just happened to look at this and the link to the scoping letter and plot map. I did not look to closely but thought you might be interested since it showed part of the plot to be the woods the other side of the golf course from you

Jack
https://www.lindenparkna.org/neighborhood-news/university-research-park-vetter-parcel-eia/

From: Kathleen McDermott
To: Clark, Aden
Cc: Patrick Ryan; Kathleen McDermott
Subject: University Reach Park 2 Vetter Parcel
Date: Thursday, February 26, 2026 11:48:30 AM
Attachments: University Research Park 2 Vetter Parcel.docx

You don't often get email from mcdermottkathleen2020@gmail.com. Learn why this is important

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

Ms. Clark, attached is our letter addressing concerns regarding URP 2 - Vetter Parcel. Please review and let us know about future activity. Thank you.

February 26, 2026

Ms. Aden Clark, Tetra Tech Company

8040 Excelsior Drive, Suite 305

Madison, WI. 53717

Submitted via email: aden.clark@tetratech.com

Ms. Clark:

Subject: University Research Park 2 Vetter Parcel

We are reaching out to you regarding the development of Vetter Parcel listed above. Our neighbor, John and Susan Udelhofen have also reached out to you to communicate their concerns that align directly with our concerns.

The backyard of our condominium also directly abuts the tree line that is part of the proposed University Research Park2 project, and we have several concerns as this project progresses.

When we built our condominium ten years ago, we knew that the land was owned by the University of Wisconsin System, Research Park specifically, and one day would be developed. However, we believed that the wood buffer that separates our backyard from the open area of the parcel would largely be left intact. Now, we are concerned that will not be the case.

As per your request, we are voicing our concerns about the possibility of losing the wood buffer, as well as our reservations about the size and scope of the proposed development.

In the 10 years we have lived in our condominium we have watched deer, racoons, squirrels, and coyotes reside in these woods. We observed a mother owl teaching her young to fly. This past winter the woods provided a home to a bobcat and her new cubs. The bird population is beautiful and varied. If this tree line buffer is removed an ecosystem will be destroyed, wildlife will be displaced, and species diversity will be reduced.

Not only would this be tragic but does not seem to reflect the University of Wisconsin's work regarding climate change issues. This vital work is reflected in their key partnerships and collaborations with the Wisconsin Initiative on Climate Change Impacts (WICCI,) Wisconsin Cooperative Wildlife Research Unit, and the Department of Natural Resources.

We are also aware of other programs such as Rise-Earth Initiative within the University of Wisconsin System that promote carbon sequestration to reduce environmental impacts and the work and research of the UW Center for Climate Research.

Removing large swaths of existing trees does not seem to reflect this research and work.

Further, ascetically, the woods are beautiful – in all seasons. We would lose the beauty that we enjoy daily.

In addition to the possibility of removing the woods buffer, we are very concerned about the added burden the size of this development will put on the traffic on Valley View and Pleasant View roads. Due to the recent housing development on Valley View Road, and increasing Epic traffic from Verona, there has been significant strain on the traffic flow on those roads especially on the roundabout that connects, Pleasant View, Valley View and Junction roads. Our fear is how the additional burden to the already stressed road system will cause huge traffic and safety issues for the residents in our neighborhoods.

There are economic concerns as well. Without a woods buffer we will literally have a large commercial development in our backyard which will negatively impact our property value.

Again, the environmental impact of the proposed plan is of great concern and does not seem to reflect the climate change concerns of the University of Wisconsin System. Please keep us informed on the steps taking place in the decision-making process going forward so that we can best communicate our concerns prior to an ultimate decision is made.

Respectfully,

Kathleen McDermott & Patrick Ryan

9009 Bentley Green

Verona, WI. 53593

From: Susan Udelhofen
To: Clark, Aden
Subject: Input regarding University Research Park Proposal
Date: Thursday, February 26, 2026 6:45:08 PM
Attachments: Udelhofen letter regarding University Reseach Park Project .docx

You don't often get email from susanudelhofen@gmail.com. Learn why this is important

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

Aden, attached is our letter regarding concerns regarding the University Research Park proposal.

Please contact me if you have any questions. Also, please keep me informed as the plans for this project progress.

Susan Udlehofen

February 26, 2026

Aden:

This letter is in response to your inquiry letter asking for input regarding The University Resarch Park development.

I currently serve on the Bentley Green Condominium Board and reside, with my husband, at 9011 Bentley Green. The backyard of our condominium directly abuts the tree line that is part of the proposed University Research Park2 project and we have several concerns as this project progresses.

When we built our condominium ten years ago, we knew that the land was owned by the University of Wisconsin System, Research Park specifically, and one day would be developed. However, we believed that the wood buffer that separates our backyard from the open area of the parcel would largely be left intact. Now, we are concerned that will not be the case.

As per your request, my husband and I are voicing are concerns about the possibility of losing the wood buffer, as well as our reservations about the size and scope of the proposed development.

In the 10 years we have lived in our condominium we have watched deer, racoons, squirrels, and coyotes reside in these woods. We observed a mother owl teaching her young to fly. This past winter the woods provided a home to a bobcat and her new cubs. The bird population is beautiful and varied. If this tree line buffer is removed an ecosystem will be destroyed, wildlife will be displaced, and species diversity will be reduced.

Not only would this be tragic but does not seem to reflect the University of Wisconsin's work regarding climate change issues. These concerns are reflected in their key partnerships and collaborations with the Wisconsin Initiative on Climate Change Impacts (WICCI,) Wisconsin Cooperative Wildlife Research Unit, the Department of Natural Resources and the work and research of the UW Center for Climate Research.

We are also aware of other programs such as Rise-Earth Initiative within the University of Wisconsin system that promote carbon sequestration to reduce environmental impacts.

Removing large swaths of existing trees does not seem to reflect this work.

Further, ascetically, the woods are beautiful – in all seasons. We would lose the beauty that we enjoy daily.

In addition to the possibility of removing the woods buffer, we are very concerned about the added burden the size of this development will put on the traffic on Valley View and Pleasant View roads. Due to the recent housing development on Valley View Road, and increasing Epic traffic from Verona, there has been significant strain on the traffic flow on those roads especially on the roundabout that connects, Pleasant View, Valley View and Junction roads.

Our fear is how the additional burden to the already stressed road system will cause huge traffic and safety issues for the residents in our neighborhoods.

We have economic concerns as well regarding our property values of having a large commercial development literally in our backyard with no tree buffer.

We have great respect for the University of Wisconsin System as we are both graduates from the University of Wisconsin holding undergraduate and advanced degrees form UW- Madison. However, the proposed plan and it's ensuing environmental impact is of great concern and does not seem to reflect the environmental values of the University of Wisconsin System.

As we discussed when spoke by phone, I would like to receive information regarding the public participation components of this project. Please send me project notices.

Respectfully,

Susan Udelhofen

Vice President, Bentley Green Condominium Board

Address: 9011 Bentley Green, Verona, WI 53593

Email: susanudelhofen@gmail.com

Phone: 608-335-1545

TETRA TECH

COMMENT FORM

Environmental Impact Assessment Scoping Process
University Research Park II – Vetter Parcel
DFD Project # 25H4I

I have the following comments regarding this project and items to be considered as part of the scoping process:

① Bentley Green Condo Association did not receive this correspondence initally. We directly border the project. (see attached map).

② The 43 acres in the project will impact wildlife and forest.

③ Valley View Rd., Pleasant View and Hwy. M has many more cars traveling those roads since the UW Phase 2 planning started many years ago. Any additional traffic access from UW Phase 2 will create significant hazardous situations.

Please complete the following information and sign if submitting comments:

Name: Richard and Cheryl Murray

Title/Representing: Bentley Green Condo Owner

Address: 9007 Bentley Green Verona, WI 53593

Telephone Number: 414-588-8901 (Richard's cell)

E-mail Address (optional): rhmurray50@gmail.com

Signature: Richard V. Murray Cheryl J Murray

☒ I am interested in continuing my involvement in the public participation components of this project. Please continue to send me project notices.

☐ I am NOT interested in continuing my involvement in the public participation of this project. Please do NOT continue to send me project notices.

Please return this form by **March 20, 2026**, to:

Aden Clark
Tetra Tech
8040 Excelsior Drive, Suite 305
Madison, WI 53717
aden.clark@tetratech.com

Site Map

University Research Park 2 Vetter Parcel
DFD Project # 25H4I

Southwest of intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin.



Bentley Green Condo Association

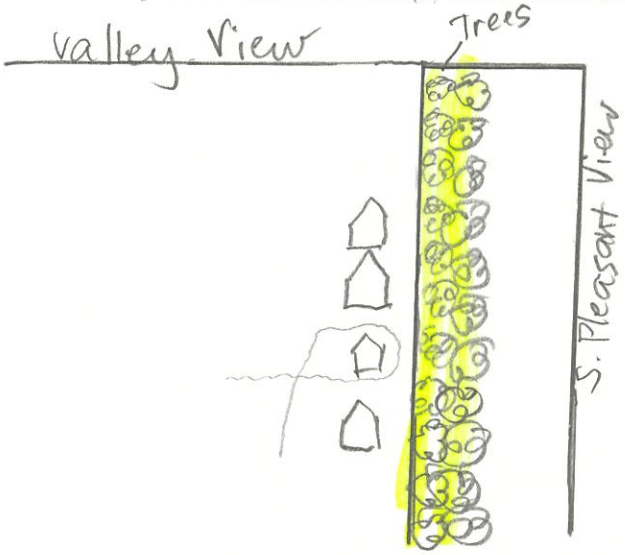
TETRA TECH

COMMENT FORM

Environmental Impact Assessment Scoping Process
University Research Park II – Vetter Parcel
DFD Project # 25H4I

I have the following comments regarding this project and items to be considered as part of the scoping process:

[Please write comment(s) here. Attach additional pages if necessary.]



The trees that serve as boundaries and barriers need to remain intact for the homeowners' privacy (condo association) and wildlife preservation.

Please complete the following information and sign if submitting comments:

Name: Maria Garcia

Title/Representing: homeowner behind trees / condo association member

Address: 9003 Bentley Green, Verona, WI 53593

Telephone Number: 608-359-9318

E-mail Address (optional): ludzgarcia@gmail.com

Signature: Mmunfinn - Jan

☑ I am interested in continuing my involvement in the public participation components of this project. Please continue to send me project notices.

☐ I am NOT interested in continuing my involvement in the public participation of this project. Please do NOT continue to send me project notices.

Please return this form by **March 20, 2026**, to:

Aden Clark
Tetra Tech
8040 Excelsior Drive, Suite 305
Madison, WI 53717
aden.clark@tetratech.com

TETRA TECH

COMMENT FORM

Environmental Impact Assessment Scoping Process
University Research Park II – Vetter Parcel
DFD Project # 25H4I

I have the following comments regarding this project and items to be considered as part of the scoping process:

[Please write comment(s) here. Attach additional pages if necessary.]

Please see attachment on page 2

Please complete the following information and sign if submitting comments:

Name: David Huntsman

Title/Representing: Applewood Hills HOA President

Address: 7077 Applewood Drive

Telephone Number: 608-335-2100

E-mail Address (optional): _____

Signature: David Huntsman

☐ I am interested in continuing my involvement in the public participation components of this project. Please continue to send me project notices.

☐ I am NOT interested in continuing my involvement in the public participation of this project. Please do NOT continue to send me project notices.

Please return this form by **July 10, 2026**, to:

Aden Clark
Tetra Tech
8040 Excelsior Drive, Suite 305
Madison, WI 53717
aden.clark@tetratech.com

Applewood Hills is a nearby, non-adjacent neighborhood northeast of the URP2 Vetter Parcel. Our primary concerns are traffic, construction haul routing, and any off-hour construction noise. Although Applewood does not directly border the parcel, our residents already experience the effects of substantial west-side traffic, particularly along Junction Road and connecting routes.

The Draft EIA states that formal traffic studies were not complete at the time of publication. That is a significant concern. It suggests that the project may be advancing before its transportation impacts have been fully understood. Before additional approvals proceed, Applewood requests that URP provide clear traffic modeling for both construction and full buildout, including peak-hour impacts on Junction Road, Pleasant View Road, Valley View Road, Watts Road, Mineral Point Road, and related commuter routes.

Applewood also requests firm construction haul-route commitments. Construction traffic should be routed primarily through the less residentially impacted Pleasant View Road corridor and should avoid Junction Road to the greatest extent practicable, even if Junction Road is more convenient for contractors. Junction Road already carries heavy peak-period commuter traffic, including traffic associated with Verona and Epic, and should not become the default construction route for this project.

Finally, Applewood asks URP to treat existing traffic conditions as a real baseline condition, not a background inconvenience. Any approval process should include meaningful mitigation, transparent communication with nearby neighborhoods, and advance notice of any proposed off-hour work, lane closures, detours, or noise variances.

TETRA TECH

COMMENT FORM

Environmental Impact Assessment Scoping Process University Research Park II – Vetter Parcel DFD Project # 25H4I

I have the following comments regarding this project and items to be considered as part of the scoping process:

My husband and I submitted an earlier letter voicing our concerns regarding the University Research Park II Proposal. Since our initial letter additional concerns have come to our attention that we want included in this public hearing.

If the wooded area is cleared between our property and the site of this development the following issues, not only during construction but after completion are of concern:

- Increased stormwater runoff and flooding.
- Soil erosion and sediment washing onto neighboring properties.
- Changes in drainage patterns that direct water onto adjacent lots.
- Loss of mature trees, shade, privacy, and natural buffers.
- Increased noise, dust, traffic, and light pollution.
- Displacement of wildlife into surrounding neighborhoods.
- Loss of scenic views and possible impacts on property values.

Who is responsible if these concerns should occur?

- The developer, if grading, drainage changes, or construction activities caused the problem.
- The general contractor or subcontractors, if their work directly caused damage.
- The municipality, in limited circumstances involving public infrastructure or legal obligations.
- Loss of property value when supported by evidence.
- Other damages allowed under state law.

Please address our concerns.

Name: John and Susan Udelhofen
Title/Representing: Susan (member of the Bentley Green Condo Board of Directors(
Address: 9011 Bentley Green, Verona,WI 53593

Telephone Number: E-mail Address (optional): susanudelhofen@gmail.com

Signature: Susan Udelhofen

Please return this form by **July 10, 2026**, to: Aden Clark Tetra Tech 8040 Excelsior Suite 305 Madison, WI 53717 aden.clark@tetratech.com

APPENDIX D: EIS DISTRIBUTION LIST

Distribution List

WEPA Compliance Document Distribution List
University Research Park 2 – Vetter Parcel
University of Wisconsin – Madison
DFD Project # 25H4I

M = Mailed a hard copy
E = emailed an electronic copy of website notice
ND = not distributed
- = not included

Contact Name	Organization	Address Line 1	Address Line 2	City	State	Zip	Email Address	Document Distribution			
								Scoping	DEIS	FEIS	ROD
Universities of Wisconsin											
Deej Lundgren	UW System Administration	780 Regent Street	Suite 239	Madison	WI	53715	deej.lundgren@wisconsin.edu	M/E	M/E	M/E	M/E
Cathy O'Hara Weiss	Universities of Wisconsin, Dir. Facility Planning & Arch.	780 Regent St.	Suite 239	Madison	WI	53715	cathy.o.weiss@wisconsin.edu	-	-	E	E
Liz Davey	Universities of Wisconsin, Sustainability Coordinator	780 Regent St.	Suite 239	Madison	WI	53715	liz.davey@wisconsin.edu	-	-	E	E
Don Keck	Office of Capital Planning and Budget	780 Regent Street	Suite 239	Madison	WI	53715	donald.keck@wisconsin.edu	E	E	E	E
Sasanehsaeh Jennings	UW System Administration, Tribal Liaison	801 N. 28th St.		Superior	WI	54880	sasanehsaeh.jennings@wisconsin.edu	-	-	E	E
University Research Park											
David Cleary	URP Site & Civil Project Director	505 S. Rosa Road	Suite 201	Madison	WI	53719	david.cleary@wisc.edu	M/E	M/E	M/E	M/E
Aaron Olver	URP Managing Director	505 S. Rosa Road	Suite 201	Madison	WI	53719	aaron.olver@wisc.edu	E	E	E	ND
Paul Muench	URP Associate Director	505 S. Rosa Road	Suite 201	Madison	WI	53719	pdmuench@wisc.edu	E	E	E	ND
Quinlan Purkey	URP Staff Attorney	505 S. Rosa Road	Suite 201	Madison	WI	53719	quinlan.purkey@wisc.edu	E	E	E	ND
University of Wisconsin-Madison											
Scott Utter	UW-Madison, Director of CPLA	21 N. Park St.	Suite 6101	Madison	WI	53715	scott.utter@wisc.edu	-	-	E	ND
Aaron Williams	UW-Madison, WEPA Coordinator	21 N. Park St.	Suite 6101	Madison	WI	53715	aaron.williams@wisc.edu	-	-	M/E	M/E
Ben Schmidt	UW-Madison, Interim Assistant Vice Chancellor - REDA	21 N. Park St.	Suite 6101	Madison	WI	53715	ben.j.schmidt@wisc/edu	-	-	E	ND
Chris Strang	UW-Madison, Assistant Vice Chancellor EH&S	21 N. Park St.	Suite 7100	Madison	WI	53715	christopher.strang@wisc.edu	-	-	E	ND
Federal/Tribal Government Agencies											
Clayton Winneshiek	Ho-Chunk Nation	PO Box 667		Black River Falls	WI	54615	clayton.winneshiek@ho-chunk.com	-	-	E	ND
Jon Greendeer	President, Ho-Chunk Nation	W9814 Airport Road		Black River Falls	WI	54615	maasusga@ho-chunk.com	-	-	E	ND
Shauna Marquardt	U.S. Fish and Wildlife, Field Office Supervisor	3815 American Blvd. East		Bloomington	MN	55425	shauna_marquardt@fws.gov	-	-	E	ND
Neighborhood Associations											
Shane Prichard	Hawk's Landing Homeowners Association	PO Box 930373		Verona	WI	53593	hlhaboardmembers@gmail.com	E	E	E	ND
Austin Krueger	Cardinal Glenn Neighborhood Association						austin.krueger@gmail.com	E	E	E	ND
David Huntsman	Applewood Homeowners Association	7077 Applewood Drive					ddhuntsman@gmail.com	E	E	E	ND
Matt Brink	Hill Valley (Proposed Development)						mbrink@veridianhomes.com	E	E	E	ND
	Linden Park Neighborhood Association						https://www.lindenparkna.org/contact/	E	E	E	ND
	Upper Sugar River Watershed Association						info@uppersugar.org	E	E	E	ND
David Handowski	Hawks Reserve HOA	9016 Royal Oaks Circle		Verona	WI	53593	davidhandowski@yahoo.com	-	E	E	ND
Susan Udelhofen	Bentley Green Condominium Board	9011 Bentley Green		Verona	WI	53593	susanudelhofen@gmail.com	-	E	E	ND
Kathleen McDermott	Bentley Green Condominium Association	9009 Bentley Green		Verona	WI	53593	mcdermottkathleen2020@gmail.com	-	E	E	ND
Patrick Ryan	Bentley Green Condominium Association	9009 Bentley Green		Verona	WI	53593	specpatryan@gmail.com	-	E	E	ND
Richard & Cheryl Murray	Bentley Green Condominium Association	9007 Bentley Green		Verona	WI	53593	rhmurray50@gmail.com	-	E	E	ND
Maria Garcia	Bentley Green Condominium Association	9003 Bentley Green		Verona	WI	53593	ludzgarcia@gmail.com	-	E	E	ND
State Elected Officials											
Governor Tony Evers	State of Wisconsin	115 East Capitol St.	PO Box 7863	Madison	WI	53702	govinfo@wisconsin.gov	E	E	E	ND
Rep. Mike Bare	State of Wisconsin - State Assembly (District 80)		PO Box 8952	Madison	WI	53708	Rep.Bare@legis.wisconsin.gov	E	E	E	ND
Sen. Dianne Hesselbein	State of Wisconsin - State Senate (District 27)		PO Box 7882	Madison	WI	53707	Sen.Hesselbein@legis.wisconsin.gov	E	E	E	ND
State Government Agency Contacts											
Brenden Johnson	Dept. of Administration, Div. of Facilities Development – PM	101 E. Wilson Street	PO Box 7866	Madison	WI	53707	Brenden.Johnson1@wisconsin.gov	E	E	E	E
RJ Binau	Dept. of Administration, Div. of Facilities Development - Administrator	101 E. Wilson Street	PO Box 7866	Madison	WI	53707	rj.binau@wisconsin.gov	E	E	E	ND
Kevin Trinastic	Dept. of Administration, Div. of Facilities Development - Director	101 E. Wilson Street	PO Box 7866	Madison	WI	53707	Kevin.Trinastic@wisconsin.gov	E	E	E	ND
Tricia Canaday	State Historic Preservation Officer - WHS	816 State Street		Madison	WI	53706	tricia.canaday@wisconsinhistory.org	-	-	E	ND
Anna Rossler	WI-DNR Endangered Resources	PO Box 7921	GEF2 DNR Central	Madison	WI	53703	anna.rossler@wi.gov	-	-	E	ND
Adam Mednick	WI-DNR WEPA Coordinator	PO Box 7921	GEF2 DNR Central	Madison	WI	53703	adamc.mednick@wisconsin.gov	-	-	E	ND

Distribution List

WEPA Compliance Document Distribution List
University Research Park 2 – Vetter Parcel
University of Wisconsin – Madison
DFD Project # 25H4I

M = Mailed a hard copy
E = emailed an electronic copy of website notice
ND = not distributed
- = not included

Contact Name	Organization	Address Line 1	Address Line 2	City	State	Zip	Email Address	Document Distribution			
								Scoping	DEIS	FEIS	ROD
Dane County											
Laura Hicklin	Land & Water Resources - Director	5201 Fen Oak Drive	Room 208	Madison	WI	53718	lwrd@countyofdane.com	E	E	E	ND
Melissa Agard	County Executive	210 Martin Luther King Jr. Blvd	City County Bldg., Room 421	Madison	WI	53703	county.executive@danecounty.gov	E	E	E	ND
Aria Trucios	District 9 Dane County Supervisor						Trucios.Aria@danecounty.gov	-	E	E	ND
City of Madison											
Meagan Tuttle	City of Madison Planning Dept. - Director	215 Martin Luther King Jr Blvd	Madison Municipal Bldg., Suite 017 (LL)	Madison	WI	53703	MTuttle@cityofmadison.com	E	E	E	ND
John W. Duncan	Alder District 1, City of Madison	215 Martin Luther King Jr Blvd	City County Bldg., Room 505	Madison	WI	53703	District1@cityofmadison.com	E	E	-	ND
Devine O. Nzegwu	Interim Alder District 1, City of Madison	215 Martin Luther King Jr Blvd	City County Bldg., Room 505	Madison	WI	53703	District1@cityofmadison.com	-	-	E	ND
James Wolfe	City of Madison, City Engineer	210 Martin Luther King Jr. Blvd	Room 115	Madison	WI	53703	Jwolfe@cityofmadison.com	-	-	E	ND
Chris Petykowski	City of Madison, Assistant City Engineer – Public Works	210 Martin Luther King Jr. Blvd	Room 115	Madison	WI	53703	Cpetykowski@cityofmadison.com	-	-	E	ND
Greg Fries	City of Madison, Assistant City Engineer – Storm	210 Martin Luther King Jr. Blvd	Room 115	Madison	WI	53703	gfries@cityofmadison.com	-	-	E	ND
Design Architect/Engineer											
Kristy Treichel	KL Engineering, Inc.	5400 King James Way	Suite 200	Fitchburg	WI	53719	kristy.treichel@klengineering.com	E	E	E	E
Samantha Herheim	KL Engineering, Inc.	5400 King James Way	Suite 200	Fitchburg	WI	53719	sam.herheim@klengineering.com	E	E	E	E
Local Libraries											
Helen C. White Library	UW-Madison Library	600 N. Park Street		Madison	WI	53706		ND	M	M	ND
Madison Public Library	Central Branch Reference Desk	201 W. Mifflin Street		Madison	WI	53703		ND	M	M	ND

APPENDIX E: SITE PHOTOGRAPHS

Photographic Record

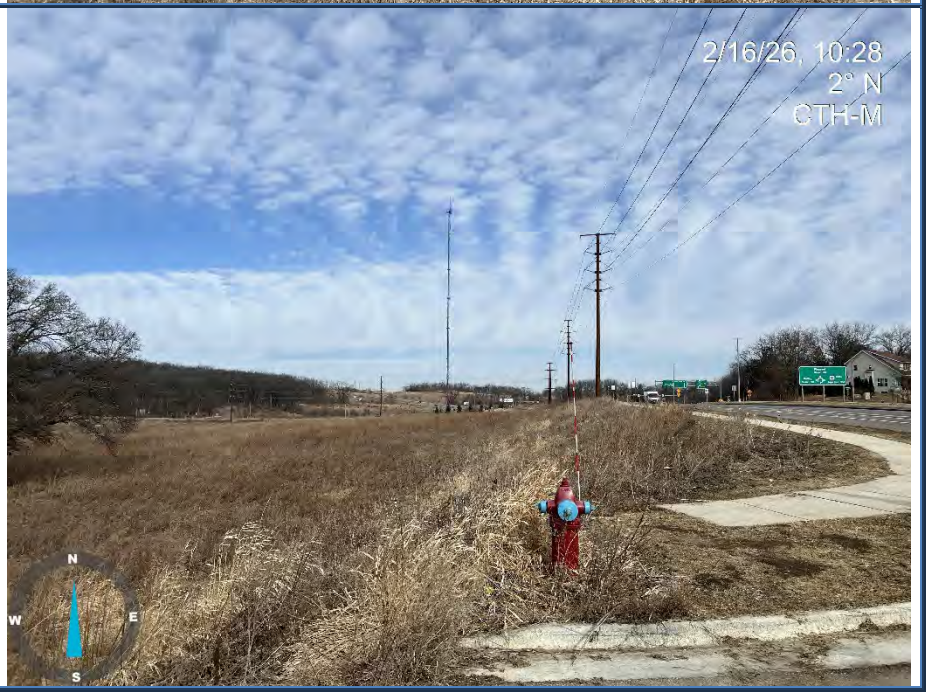
Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photo Locations Site Map
X = Photo Location



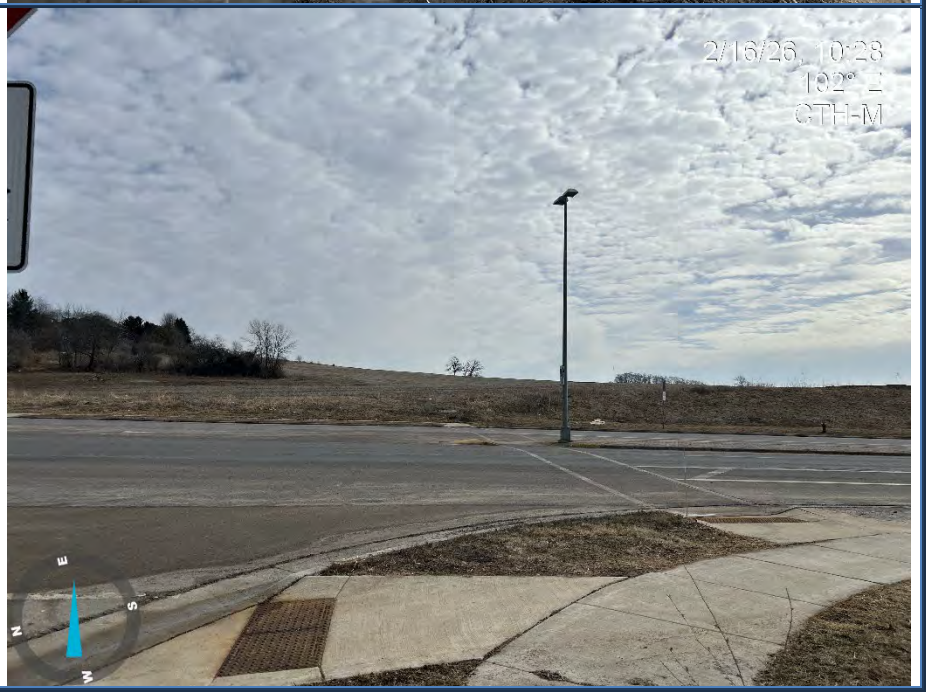
Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 1 Comments: 75-acre project location. Viewing west from S. Pleasant View Rd (County Highway M) Photo Location: 1	
Photograph No. 2 Comments: 75-acre project location. Viewing north from S. Pleasant View Rd (County Highway M) Photo Location: 1	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 3 Comments: 75-acre project location. Viewing south from S. Pleasant View Rd (County Highway M) Photo Location: 1	
Photograph No. 4 Comments: 75-acre project location. Viewing S. Pleasant View Rd (County Highway M) east. Photo Location: 1	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 5 Comments: 75-acre project location. Outbuilding viewing northeast. Photo Location: 2	
Photograph No. 6 Comments: 75-acre project location. Viewing east from Boyer St. Photo Location: 2	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 7 Comments: 75-acre project location. Viewing south from Boyer St. Photo Location: 2	
Photograph No. 8 Comments: 75-acre project location. Viewing west from Boyer St. Photo Location: 2	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 9 Comments: 75-acre project location. Viewing north from Boyer St. Photo Location: 2	
Photograph No. 10 Comments: 75-acre project location. Viewing west. Photo Location: 3	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 11 Comments: 75-acre project location. Viewing north. Photo Location: 3	
Photograph No. 12 Comments: 75-acre project location. Viewing south. Photo Location: 3	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 13 Comments: 75-acre project location. Viewing east. Photo Location: 3	
Photograph No. 14 Comments: 75-acre project location. Drainage swale culvert viewing northwest. Photo Location: 3	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 15 Comments: 75-acre project location. Drainage swale culvert viewing southwest. Photo Location: 3	
Photograph No. 16 Comments: 75-acre project location. Drainage swale viewing north. Photo Location: 3	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 17 Comments: 75-acre project location. Viewing north Photo Location: 4	
Photograph No. 18 Comments: 75-acre project location. Viewing S. Pleasant View Rd (County Highway M) east. Photo Location: 4	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 19 Comments: 75-acre project location. Viewing west. Photo Location: 4	
Photograph No. 20 Comments: 75-acre project location. Viewing south. Photo Location: 4	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 21 Comments: 25-acre conservancy. Viewing west from Nelson Crossing. Photo Location: 5	
Photograph No. 22 Comments: 25-acre conservancy. Viewing north from Nelson Crossing. Photo Location: 5	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 23 Comments: 25-acre conservancy. Viewing south from Nelson Crossing. Photo Location: 5	
Photograph No. 24 Comments: 25-acre conservancy. Viewing Nelson Crossing east. Photo Location: 5	

Photographic Record

Client: University Research Park 2
DFD Project Number: 25H4I
Site Name: Vetter Parcel
Site Location: Southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin

Photograph No. 25 Comments: 25-acre conservancy within tree line. Viewing north. Photo Location: 5	
Photograph No. 26 Comments: 25-acre conservancy within tree line. Viewing west. Photo Location: 5	

APPENDIX F: REQUEST FOR SHPO REVIEW AND COMMENT ON A STATE UNDERTAKING

Request For SHPO Review and Comment on a State Undertaking, March 20, 2026

SHPO Concurrence, April 7, 2026

(09/6/2019) For SHPO Use Only. Case # _____

REQUEST FOR SHPO REVIEW AND COMMENT ON A STATE UNDERTAKING

Submit one copy with each undertaking for which our comment is requested. Please print or type. We do not accept Electronic Submittals.

Return to:

Wisconsin Historical Society, State Historic Preservation Office, 816 State Street, Madison, WI 53706

Please Check All Boxes and Include All of the Following Information, as Applicable:

I. GENERAL INFORMATION

☐ **This is a new submittal.**
☒ **This is supplemental information relating to Case #:** 25-0007 **, and title:** UW- URP - Pioneer 1st Addition
☐ **This project is being undertaking pursuant to the terms and conditions of a programmatic or other interagency agreement.**

The title of the agreement is _____

a. State Agency Jurisdiction (Agency providing funds, assistance, license, permit): University Research Park (URP), Inc.

b. State Agency Contact: David Cleary - Site & Civil Project Director

c. Phone: 262-957-4682 FAX: 608-441-8010

d. Return Address: 505 S. Rosa Rd City: Madison Zip Code: 53719

e. Email Address: david.cleary@wisc.edu

f. Project Name: University Research Park–Pioneer 1st Addition (25-Acre Conservancy)

g. Project Street Address: SW Corner of Valley View Road and Pleasant View Road

h. County: Dane City: Madison Zip Code: 53593

i. Project Location: Township 7N, Range 8, East ☒ or West ☐, Section 34, Quarter Sections SW

j. Project Narrative Description—Attach Information as Necessary, including brief project overview and current photos of project property(ies).

k. Area of Potential Effect (APE). Attach Copy of U.S.G.S. 7.5 Minute Topographic Quadrangle Showing APE.

II. IDENTIFICATION OF HISTORIC PROPERTIES

☐ The following historic property(ies) is (are) recorded in the Wisconsin Inventory of Historic Places and is (are) located within the project APE.

_____

_____

Attach supporting materials (including copy of Wisconsin inventory database record, current photo(s) of property).

III. FINDINGS

☒ No historic property (enumerated in II above) may be affected by the proposed project. Attach supporting material.
☐ The proposed undertaking may affect an historic property (identified in II above) located within the project APE. Attach supporting material.

Authorized Signature: David J. Cleary Digitally signed by David J. Cleary DN: C=US, E=david.cleary@wisc.edu, O="University Research Park, Inc.", CN=David J. Cleary Location: URP Reason: I am the author of this document Date: 2026.03.20 11:46:32-05'00' Date: 3/20/26

Type or print name: David J. Cleary

IV. STATE HISTORIC PRESERVATION OFFICE COMMENTS

☐ Agree with the finding in section III above.
☐ Do not agree with the finding in section III above.
☐ The proposed undertaking will not adversely affect one or more historic properties.
☐ The proposed undertaking will adversely affect one or more historic properties.
☐ WHS requires negotiation with the state agency to address the adverse effect.
☐ WHS does not require negotiation with the state agency to address the adverse effect.
☐ WHS objects to the finding for reasons indicated in attached letter.
☐ WHS cannot review until information is sent as follows: _____

Authorized Signature: _____ Date: _____

Guidelines to Assist with Your Submittal

Identify Historic Property that is recorded in the Wisconsin Inventory of Historic Places. Historic buildings and other structures are found in the Architecture History Inventory, which is available here: http://www.wisconsinhistory.org/ahi/. For ground-disturbing activities, the Archeological Site Inventory is available through subscription or through the public access at the WHS Administration building in Madison. All historic properties are recorded in the Wisconsin Historic Preservation Database which is available through subscription or through the public access at the WHS Administration Building in Madison.

Effect: Will your project change, replace, augment, add to, diminish, or otherwise alter physical properties of the Inventoried property itself or its setting, whether such impact is perceived to be positive or negative?

Narrative: Describe your project briefly including the problem or needs you are addressing, the options you have considered, and the option you have chosen to pursue.

APE (Area of Potential Effect): Space within which the project will have immediate impact. Also, space within which there may be collateral/secondary impact. Provide a map showing the location of your property/project. USGS Topographic-type maps are helpful (these may be obtained through the internet or from the US Geological Survey downloadable maps here: https://viewer.nationalmap.gov/basic/) you may supply additional maps as necessary including plat, street (using Google or MapQuest, for example) to assist us identifying your project location.

Supporting materials: Provide copies of all plan details, including drawings and other specifications. Include information on each of the options considered. Provide cost assessments/comparisons of options considered. Provide current (and historic, if relevant) photos of the property, including specific photos of the areas of the property to be affected.

Section I: General Information: Check the appropriate boxes, and provide all information as requested, referring to the above guidelines as necessary.

Section II: Identification of Inventoried Properties: Copy the Wisconsin Inventory of Historic Places information to include with your submittal. If there are no such properties, you do not submit materials to our office for review.

Section III: Findings: Using the guidelines above, assess any effect(s) on the Inventoried property. If there will be no effect, check the appropriate box. If there is no effect, you are not required to submit materials to our office for review. However, you may submit materials and we will evaluate your findings. If there may be an effect, check the appropriate box.

Section IV: SHPO Comments: We will determine whether your project may adversely affect the Inventoried property. If there may be an adverse effect, we may request additional information; we may suggest a change to your project plans; we may acknowledge the adverse effect and conclude our review. In any case of adverse effect, we may require negotiation with the Agency to discuss options to avoid, minimize or otherwise mitigate the adverse effect. We will indicate our response on the form, and will return the form to you.

The law requires we respond to you within 30 days of our receipt of your submittal. If necessary, we may request an additional 30 days to review your project. If we do not respond to you within 30 days of our receipt of your submittal, there is a statutory presumption that we have no further comments on your project. You may then proceed with your project as designed at the time of the submittal.

With any questions, please contact the Wisconsin Historical Society by telephone at (608) 261-2457 or by email at compliance@wisconsinhistory.org.

PLEASE NOTE: All materials must be submitted hard-copy via mail carrier. We do not accept electronic submittals.

Send materials to:

Wisconsin Historical Society
State Historic Preservation Office
816 State Street
Madison, WI 53706

LIST OF ATTACHMENTS

Attachment 1 – Project Summary

Attachment 2 – ACS Literature and Records Search June 2024

Attachment 3 – SHPO Review

Attachment 4 – Project Location

Attachment 5 – Preliminary Design Concept

Attachment 6 – WHPD Map

ATTACHMENT 1 – PROJECT SUMMARY

Project Summary
University Research Park 2 Vetter Parcel – 25-acre Conservancy
DFD Project #25H4I

Background

The project supports future development of the proposed University Research Park 2 (URP2) Vetter Parcel through preparatory road and utilities construction. The URP2 project area is approximately 100 acres, with 75 acres to be developed (Area 1) and 25 acres conservancy area that will remain as conservancy. Project activities within Area 1 include site preparation, erosion control, stripping existing topsoil, mass grading, stormwater management, fine grading, public utilities, base course, roadway section with curb and gutter, sidewalk, street lighting, private utilities, and site restoration.

Archaeological Consulting and Services Inc. (ACS) prepared a report titled “A Literature and Records Search on the Cultural Resources of Potential Development Areas for the University Research Park in the City of Madison, Dane County, Wisconsin” (June 2024). This report evaluated the 75-acre Area 1 project area (among others) and is included as Attachment 2. The June 2024 ACS report and related project information was submitted to the Wisconsin Historical Society (WHS) and received official State Historic Preservation Office (SHPO) concurrence for the project on January 8, 2025 (Attachment 3).

Since the submittal of the June 2024 ACS report and January 2025 SHPO concurrence for the project, an additional 25-acre Conservancy has been added to the project scope. The Conservancy is located southwest of the previously evaluated Area 1 and is shown in Attachment 4. This 25-acre conservancy area was not included in the ACS evaluation; ergo, a review request for the conservancy area is being submitted to the WHS SHPO as a supplement to the June 2024 ACS report.

Proposed Project

A full description of the proposed project was included in the previous submittals to the SHPO. The 25-acre southwest Conservancy area not previously evaluated will remain a wooded lot with a pervious walking path added. The proposed plan for the 25-acre Conservancy area is to have a licensed arborist identify the walking path alignment with the least amount of impact to existing topography and trees identified for protection. Preliminary plans for the walking path are included as Attachment 5.

Historic/Archaeological Findings

A desktop review of the 25-acre Conservancy was completed using the Wisconsin Historic Preservation District (WHPD) database. No sites within the Architecture and History Inventory (AHI), the Archaeological Site Inventory (ASI), the Archaeological Reports Inventory (ARI), or the National Register (NR) were found within the 25-acre conservancy area.

ATTACHMENT 2 – ACS LITERATURE AND RECORDS SEARCH JUNE 2024



A LITERATURE AND RECORDS SEARCH ON THE CULTURAL RESOURCES OF POTENTIAL DEVELOPMENT AREAS FOR THE UNIVERSITY RESEARCH PARK IN THE CITY OF MADISON, DANE COUNTY, WISCONSIN

REPORTS OF INVESTIGATION NO. 2227

JUNE, 2024

SUBMITTED BY:

ARCHAEOLOGICAL CONSULTING AND SERVICES, INC.
POB 260274
MADISON, WISCONSIN 53726-0274

PROJECT SUMMARY

Title: A Literature and Records Search on the Cultural Resources of Potential Development Areas for the University of Wisconsin Park in the City of Madison, Dane County, Wisconsin

I.D. ACS 2227

Principal Investigator: Philip H. Salkin
Archaeological Consulting and Services, Inc.
POB 260274
Madison, Wisconsin 53726-0274

Project Personnel: Lauren Glover

Contractor: University of Wisconsin Research Park
506 South Rosa Rd., Suite 201
Madison, Wisconsin 53719

Methods:
Literature and Records Search

Results of the Survey:
One Native American site (47DA-1551) is located in Area 1 and several are located in some proximity. Area 1 also included a mid-19th century blacksmith shop and a home and farm occupied for over 100 years. Areas 2A and 2B also included various late 19th- early 20th century homes and farms. Areas 2A, 2B,and 3 included the property of the Sanborn family early pioneers in the Town of Middleton and may include various buildings associated with them. The north-eastern corner of Area 3 was part of the location of the community of East Middleton, which was, for some period of time, the center of the Town of Middleton.

Recommendations:
As a literature and records search, no fieldwork was conducted in association with this project. It is sufficient to indicate that the potential project areas have the potential to yield significant archaeological and historical resources.

Date of Study: April-June, 2024
Date of Report: June, 2024uly, 2014

Abstract

From April to June, 2024, the author conducted a literature and records search on potential development sites for the University Research Park in the City of Madison, Wisconsin. The purpose of the study was to determine if any previously identified cultural resources might be impacted by development. The total area of potential impact could be about 127 hectares (314 acres). In the course of the study, a range of data sources were utilized to identify the cultural resources, both prehistoric and historic in and immediately near the project area.

The study indicated that one previously reported Native American site, the Research Knoll Site (47DA-1551, is located in the study area, in this case, Area 3. While the site does not appear large or very productive, the report documenting it (Sterner 2019) indicates that it could be more expansive than the area studied. The Wisconsin ASI form indicates, "The current status of the site is unknown and additional investigations may need to be completed."

The study did indicate the presence of a number of Euro-American homes and homesteads in the project areas Area 1 includes a blacksmith shop in the northeastern corner of. Sec. 34, T7N, R8E. This site appears to have been occupied for a relatively short time and could offer insights into this important trade in mid-19th century Dane County, Also present in Area 1 was the home and property long associated with the Haak family. This site might provide insights into the changing nature of agricultural properties in this area from ca. 1870's to the 1970's. Areas 2A and 2B have houses shown on the available plats since the 1860's in the case of Area 2A and the 1870's for Area 2B. For a period of time, these areas were included in the property owned by pioneer James D. Sanford and later (by 1873) his son.

Area 3 has several potential points of interest. The first are any homes or buildings associated with James B. Sanford, an early and important pioneer in the Town of Middleton. The second is the northeastern corner of the NW1/4, NE1/4, Sec. 27, T7N, R8E. This was a part of the settlement of East Middleton. As noted, this was the focus of early development in the Town of Middleton. The area which developed on both sides of what is now South Junction Road and Mineral Point Road included homes, businesses and a church. It is understood that some of this area may be excluded from development, even if the rest of Area 3is developed. Further, there appears to be considerable disturbance to this portion of the area.

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Introduction

From April to June, 2024, the author conducted a literature and records search on potential development sites for the University Research Park in the City of Madison, Wisconsin. The purpose of the study was to determine if any previously identified cultural resources might be impacted by development. The total area of potential impact could be about 127 hectares (314 acres). It is understood that this figure might be greatly reduced as decisions are made on development plans in the future. The four project areas are location in Section 34, T7N, R8E (Area 1) and Sec. 27, T7N, R8E (Areas 2A, 2B and 3) in the City of Madison, Dane County, Wisconsin.

The project was conducted by the author, with the assistance of Lauren Glover of Archaeological Consulting and Services, Inc. of Madison, Wisconsin. It was conducted for the University Research Park of Madison, Wisconsin.

The Area

The project area is located in west-central Dane County in the south-central portion of the state (Figs. 1-2). This part of Wisconsin lies in the Eastern Ridges and Lowlands Province, an area distinguished by its relatively level to rolling topography. The region is dominated by cuestas: ridges with steep escarpments on one side and long, gentle slopes on the other (Martin 1965: 212). The area is in close proximity to the Western Uplands Province, which encompasses most of western and southwestern Wisconsin. That area is a thoroughly dissected upland (ibid: 42).

The general project area is underlain by Cambrian sandstones, dolomites and shales. There are also areas of dolomites, shales and sandstones of the Prairie du Chien formation (Wisconsin Geological and Natural History Survey 1981). This is overlain by a complex of outwash deposits and end moraines (Wisconsin Geological and Natural History Survey 1976).

Prior to the intensive utilization of the area by Euro-American populations, the primary vegetation community in this area was oak-savannah. This included upland stands of bur, white and black oak, with a mesic prairie understory and lowland stands of swamp white oak with a wet, mesic prairie understory (Curtis 1959: 326). There may have also been some prairie. Finley (1976) shows the area as primarily covered by oak stands.

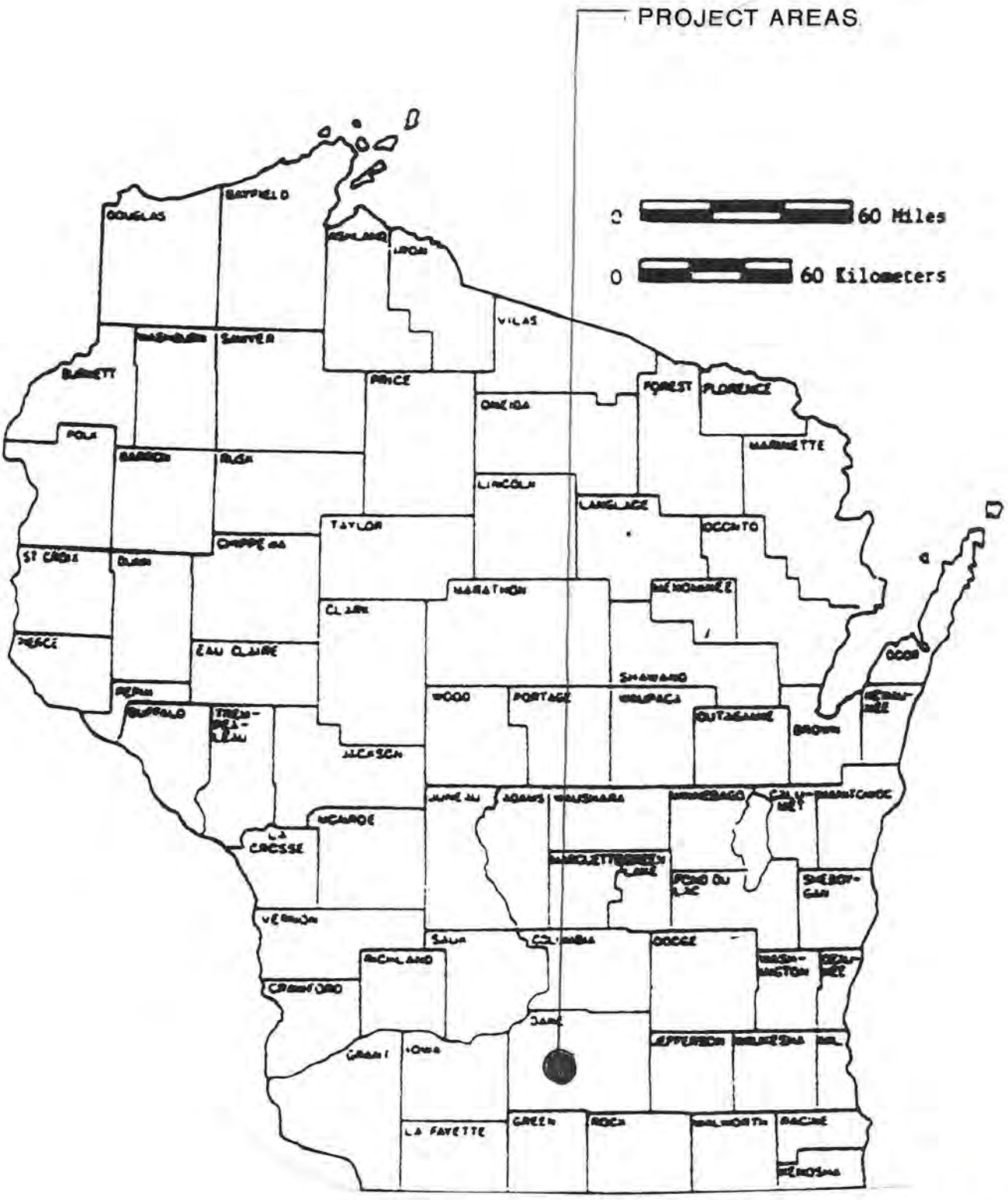


Fig. 1 – The Location of the Project Areas in Dane County, Wisconsin

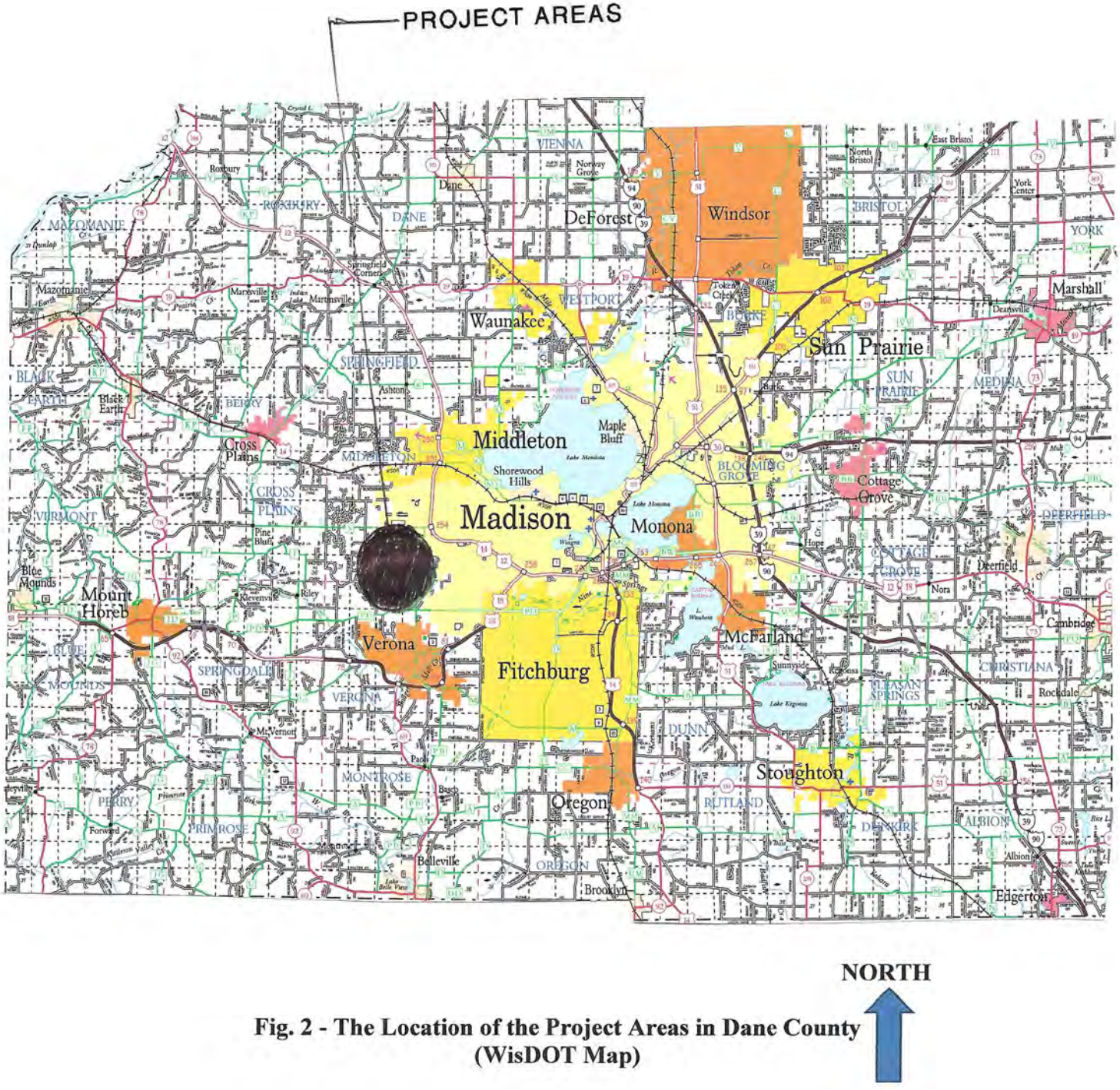


Fig. 2 - The Location of the Project Areas in Dane County (WisDOT Map)

The Project Areas

The area of potential effect for this project is divided into four locations:

Area 1:

Area 1 is located in the E1/2, NW1/4, Sec. 34, T7N, R8E (Figs. 3-4). It is approximately 26.7 hectares (65.95 acres) in size. The area is bounded on the north by Valley View Road, on the east by Pleasant Valley Road and a golf course and sub-divisions to the west and south . The area can be described as gently sloping and sloping with elevations running from around 320 meters m.s.l. along an intermittent stream to about 335 meters m.s.l. as it slopes uphill to the east and west.

Current aerial photographs show Area 1 as being open with little development. There are two small wooded locations. The1937 and subsequent aerial photos also show the same land use with, as will be discussed, some farmsteads. The 1939 Wisconsin Economic Inventory map shows the area as cropland with some small areas of pasture and oak-hickory stands.

Several soil types are found in the area with the most prominent being:

Dodge silt loam, 6-12% slopes – well-drained soil found on convex slopes on glaciated uplands formed in loess over sandy loam glacial till under a cover of mixed hardwoods (Glocker and Patzer 1978: 22)

St. Charles silt loam, 6-12% slopes, eroded – well-drained soil found on middle side slopes of glaciated uplands – formed in loess and loamy glacial till under a cover of mixed hardwoods (ibid: 61)

Troxel silt loam, 1-4% slopes – moderately well to well-drained soil found in drainageways and small draws – formed in silty alluvium and buried silty soils under a cover of prairie grasses (ibid: 68).

Area 2A:

Area 2a is located in the E1/2, E1/2, SW1/4 and the W1/2, SE1/4, Sec. 27, T7N, R8E (Figs. 3-4). It is bordered on the north by Area 3 and on the west by Area 2A. To the east is South Junction Road. The area can be described somewhat to steeply sloping with elevations ranging from about 330 meters m.s.l. at its southern tip by Valley View Road sloping uphill to the north and northwest to elevations up to around 356.6 meters m.s.l. in the northwestern corner.

Today the area consists of a mix of agricultural fields, small wooded stands and disturbed areas, one near a former quarry. The 1939 Wisconsin Economic Inventory map shows this as the least

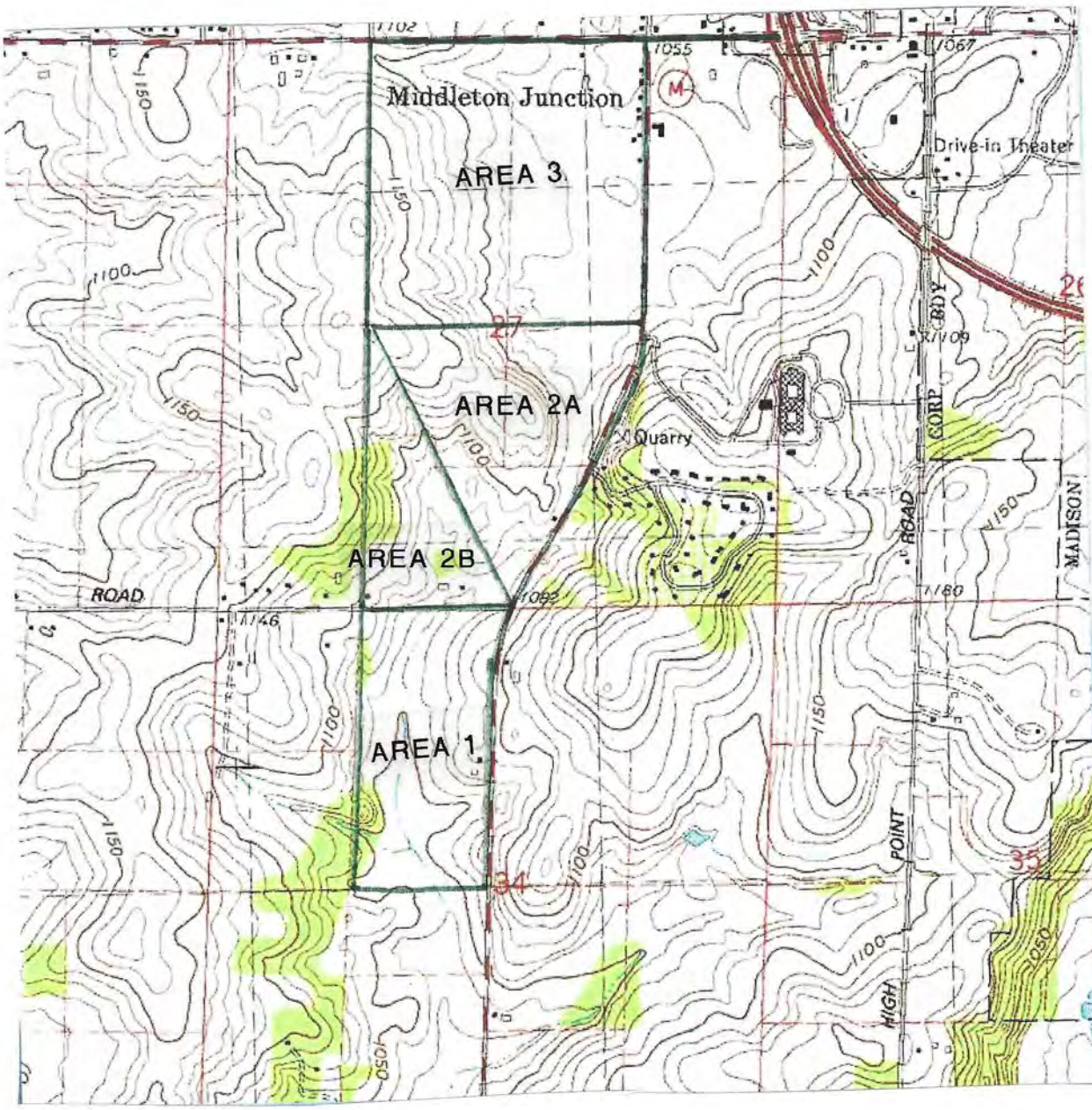


Fig. 3 – The Topography of the General Project Area
Middleton, Wi. Quad
1cm= ap. 191.6m

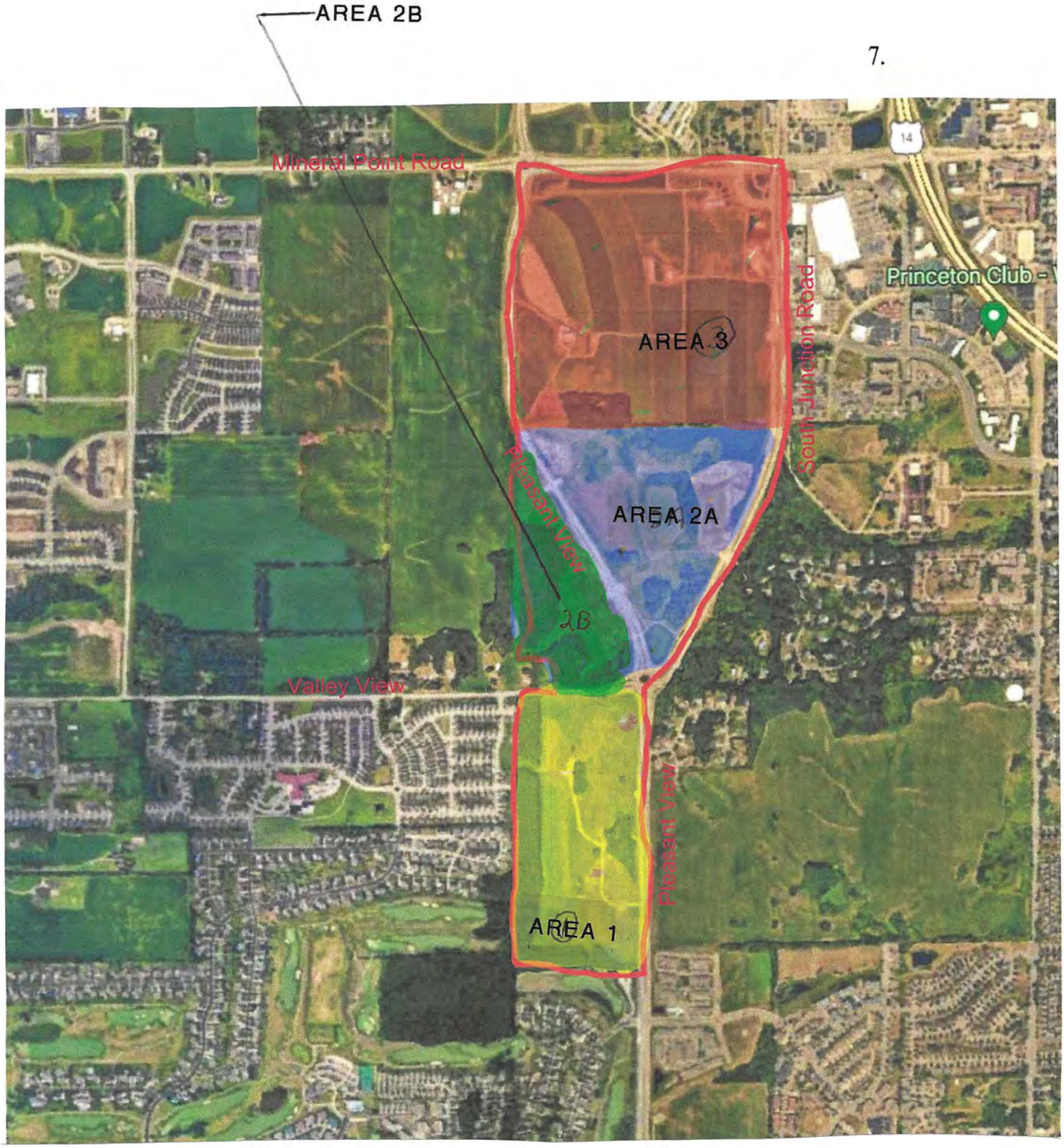


Fig. 4 – Aerial Photo of the Project Areas
1cm = approx. 160m

agricultural of the four project areas. It was more in pasture and oak-hickory woodland, with Some larger trees.

Several soil types are found in the area with the most prominent being:

Griswold loam, 12-20% slopes, eroded – well-drained soil found in lower side slopes of glaciated uplands – formed in thick glacial till under a cover of prairie grasses (Glocker and Patzer 1978: 35)

Plano silt loan, 2-6% slopes – moderately well and well-drained soils found in stream valleys on glaciated uplands – formed in loess and sandy loam glacial till and sand and gravel outwash under a cover of prairie grasses ibid: 52-54)

Ringwood silt loam,6-12% slopes eroded – well-drained soil found on glaciated uplands – formed in loess and sandy loam glacial till under a cover of prairie grasses (ibid: 57)

Troxel silt loam, 1-4% slopes – moderately well to well-drained soil found in drainageways and small draws – formed in silty sand and buried silty soils under a cover of prairie grasses (ibid: 68).

Area 2B:

Area 2B is located in the W1/2, SW1/4, Sec. 27, T7N, R8E (Figs, 3-4). At 9.36 hectares (23.13 acres), it is the smallest of the project areas. Shaped like a right-triangle, it is bordered on the south by Valley View Road on the east by Pheasant Valley Road. To the west is largely open land. The area can be described as sloping to steeply sloping with elevations ranging from around330 meters m.s.l. in the southeastern corner to over 356.6 meters m.s.l. in the northwestern tip of the triangle. In general, there is a strong slope uphill to the west and northwest.

At the present time, most of the area lies in open fields. There are two large wooded areas. The Wisconsin Economic Inventory Map of 1939 shows much of the area as in permanent pasture or oak-hickory stands with 30-40cm diameter trees.

Several soil types are found in this location with the most common being:

Griswold loam, 12-20% slopes, eroded – well-drained soil found in lower side slopes of glaciated uplands – formed in thick glacial till under a cover of prairie grasses (ibid 1978: 35)

Plano silt loam, 0-2% and 2/6% slopes - - moderately well and well-drained soils found on ridge crests and upper side slopes on glaciated uplands – formed in loess and sandy loam glacial rill and sand and gravel outwash under a cover of prairie grasses (Glocker and Patzer 1978:: 52-53)

Plano silt loam, 6-12% slopes, eroded - moderately well and well-drained soils found on side slopes on glaciated uplands – formed in loess and sandy loam glacial rill and sand and gravel outwash under a cover of prairie grasses (ibid: 52-54)

Troxel silt loam, 1-4% slopes – moderately well to well-drained soil found in drainageways and small draws – formed in silty sand and buried silty soils under a cover of prairie grasses (ibid: 68).

Area 3:

This location is the largest and most northern portion of the potential project areas. It is approximately 63.9 hectares (157.74 acres in size) and lies in the central portion of Sec. 27, T7N, R8E (Figs. 3-4). It is bordered on the north by Mineral Point Road, on the south by Area 2A and on the east by South Junction Road. To the west is Pleasant Valley Road and open fields beyond.. The east half of Area 3 is relatively level with elevations from around 322 meters m.s.l. to 329 meters m.s.l. However, the western portion of the area slopes moderately to the west up to over 356.6 meters m.s.l.

Today, much of Area 3 is in agricultural field. There is a radio facility near the center and impact from road construction in the northeastern corner. However, as will be discussed, the northeastern area was part of the early community of East Middleton and was the location of both economic and residential development. The 1939 Wisconsin Economic Inventory map still showed the northeastern corner as part of East Middleton but the rest of the area as cropland.

With the variety of topography, it is not surprising that Area 3 is the location of a number of different soils. Covering most of the area are:

Dresden silt loam, 6-12% slopes eroded - well-drained soil found on convex areas on outwash plains and benches in Stream valleys – formed in loamy outwash and sandy and gravelly calcareous outwash under a cover of mixed hardwoods with a prairie understory (Glocker and Patzer 1978:24-25)

Plano silt loam, 6-12% slopes, eroded - moderately well and well-drained soils found on side slopes on glaciated uplands – formed in loess and sandy loam glacial rill and sand and gravel outwash under a cover of prairie grasses ibid: 52-54)

Ringwood silt loam,6-12% slopes eroded – well-drained soil found on glaciated uplands – formed in loess and sandy loam glacial till under a cover of prairie grasses (ibid: 57)

Troxel silt loam, 1-4% slopes – moderately well to well-drained soil found in drainageways and small draws – formed in silty sand and buried silty soils under a cover of prairie grasses (ibid: 68).

In summation, relatively small portions of the project areas are level to gently rolling, a much larger portion are moderately to steeply sloping, As shown on the 1832 GLO map, steeply sloping terrain may reduce the potential for the presence of larger Native American sites. Much of the area has been cultivated, as indicated by the 1939 Wisconsin Economic Inventory map, but there are, or were small wood lots or patches of hardwood stands. Finally, the general area has a paucity of water resources, largely restricted to a small, intermittent drainage in Area 1. Again, the lack of more substantial water resources might impact the potential for the presence of larger Native American sites. As will be seen, the lack of permanent surface sources of water was less of an inhibiting factor for Euro-American settlers.

Methods

A range of documents and publication were utilized to conduct this literature and records search. They included:

Site files and archives of the Wisconsin State Historic Office

Site files and archives of Archaeological Consulting and Services, Inc.

"A Literature and Records Search on the Prehistoric Cultural Resources of Dane County, Wisconsin" (Salkin 1983) – includes the Charles E. Brown Atlas and the Charles E. Brown Manuscripts

Wisconsin Architectural/Historical Inventory

County Histories (including Parks, 1877, Western Historical Association 1880 and Keyes 1906)

Local and Town Histories

Historical Maps and Plats (including the G.L.O. and Wisconsin Economic Inventory maps)

Aerial Photos

National Register of Historic Places

Wisconsin Archaeologist

Cultural Resource Management Reports.

All prehistoric and historic Native American sites were plotted on the USGS map to establish their relationship to the project areas. They are presented in this report only by section number. Only sites in, or immediately near, the project areas are given specific locations.

Historic Euro-American sites, primarily homesteads within the project areas, were plotted on plat maps and then on project maps (Fig. 5). This allowed the pattern of development to be documented as well as the approximate location of buildings, outbuildings and debris dumps.

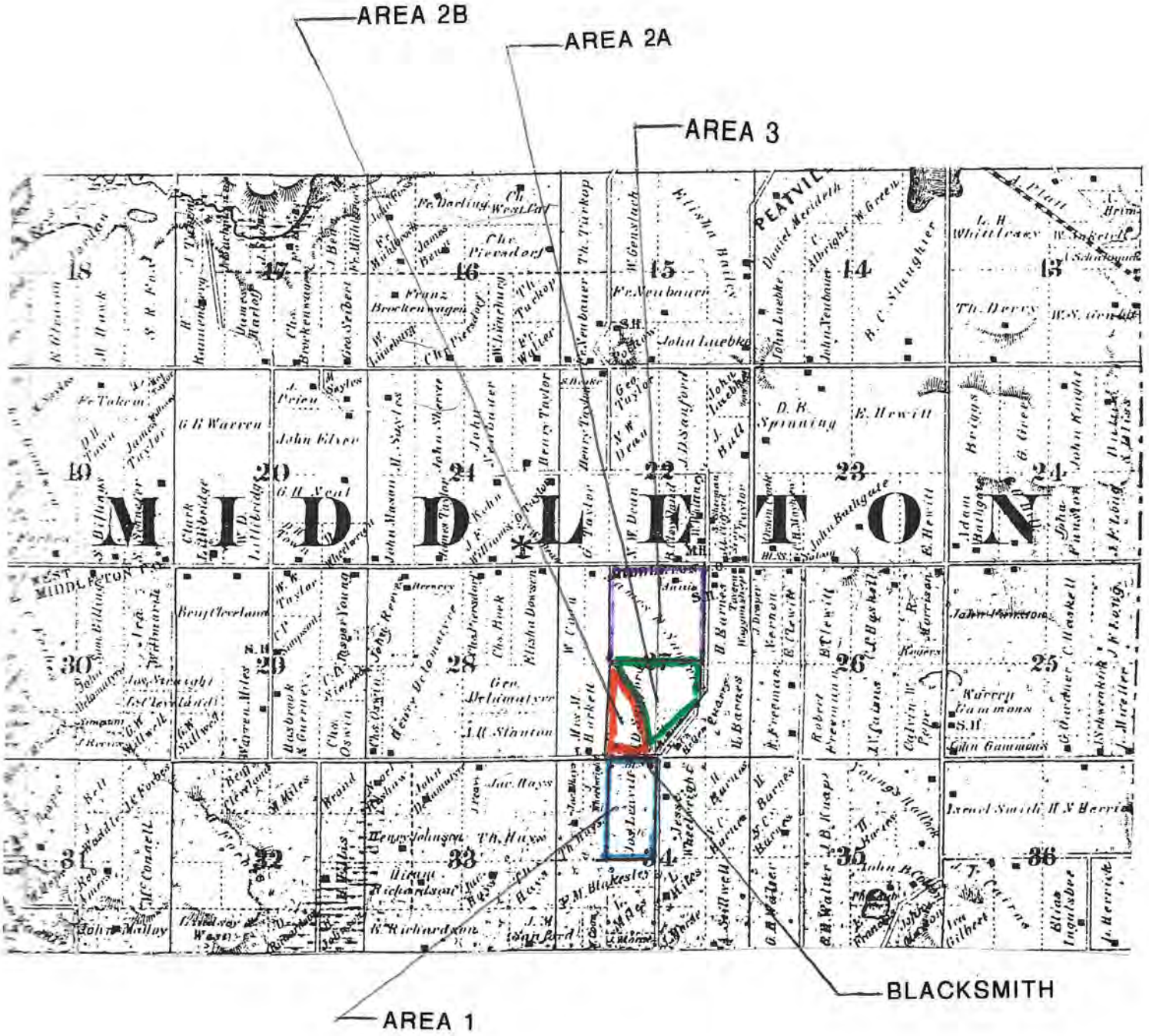


Fig. 5 – The Project Areas on the 1861 Plat Map (Ligowsky 1861)

Results of the Study

Native American Sites.

The literature and records search indicated the potential for the presence of generally small, prehistoric Native American sites in the general vicinity of the project areas. These include seven sites in Section 21, T7N, R8E, to the northwest of Area 3:

47DA-0245/BDA-0429 – Blue Mound Trail Effigies – Sec. 21 – this site relates to an early report of two effigy mounds along the Blue Mounds Trail – there is little other information and the site may not have been in this section – there is no report of the mounds in Sections 27 and 34

47DA-0496 – Haen Site – Sec. 21 – Native American occupation – lithic scatter

47DA-1319 – Blackhawk Church Point – Sec. 21 – isolated find of a projectile point

47DA-1477 – Elderberry Site – Sec. 21 – Native American occupation – lithic scatter

47DA-1479 - McKenzie Site #1 – Sec. 21 – Native American occupation lithic scatter

47DA-1480 – McKenzie Site #2 – Sec. 21 – Native American occupation site – surface scatter.

47DA-1481 – McKenzie Isolate – Sec. 21 – isolated find of a non-diagnostic lithic artifact.

As noted, the Blue Mounds Trail, which later became an early Euro-American road is shown on the GLO map (Fig. 6) as crossing the N1/2, Sec. 21, T7N, R8E.

Another site, 47DA-1588 (Walnut Grove Site)was report in the NW1/4, Sec. 23, T7N, R8E, This Native American lithic scatter was well to the northeast of Area 3.

The most relevant site for this study is 47DA-1551, the Research Knoll Site. This site was reported as in the SE1/4, NW1/4, Section 34, T7N, R8E (Fig. 7). The site was discovered as a result of survey along a portion of CTH 'M' on the grounds of the University Research Park (Sterner 2019). Figure 6 shows the location of a survey area and the artifacts found on the survey of a 6.02 hectare (14.87 acre) portion of an agricultural field. Recovered materials

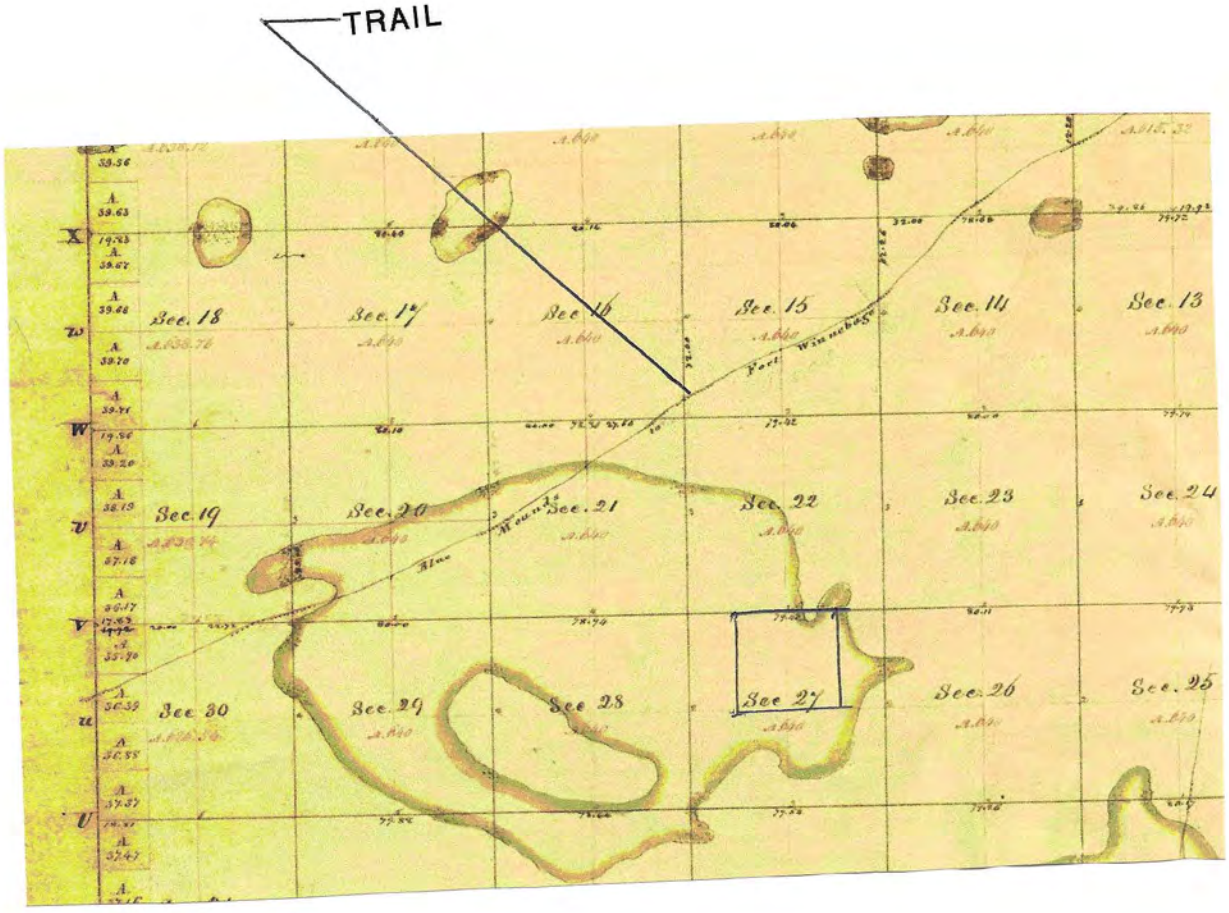


Fig. 6 – Location of the Indian Trail (Fort Winnebago Road) on the 1832 GLO Map



Fig. 7 – The Location of the Research Knoll Site on the Wisconsin ASI Map

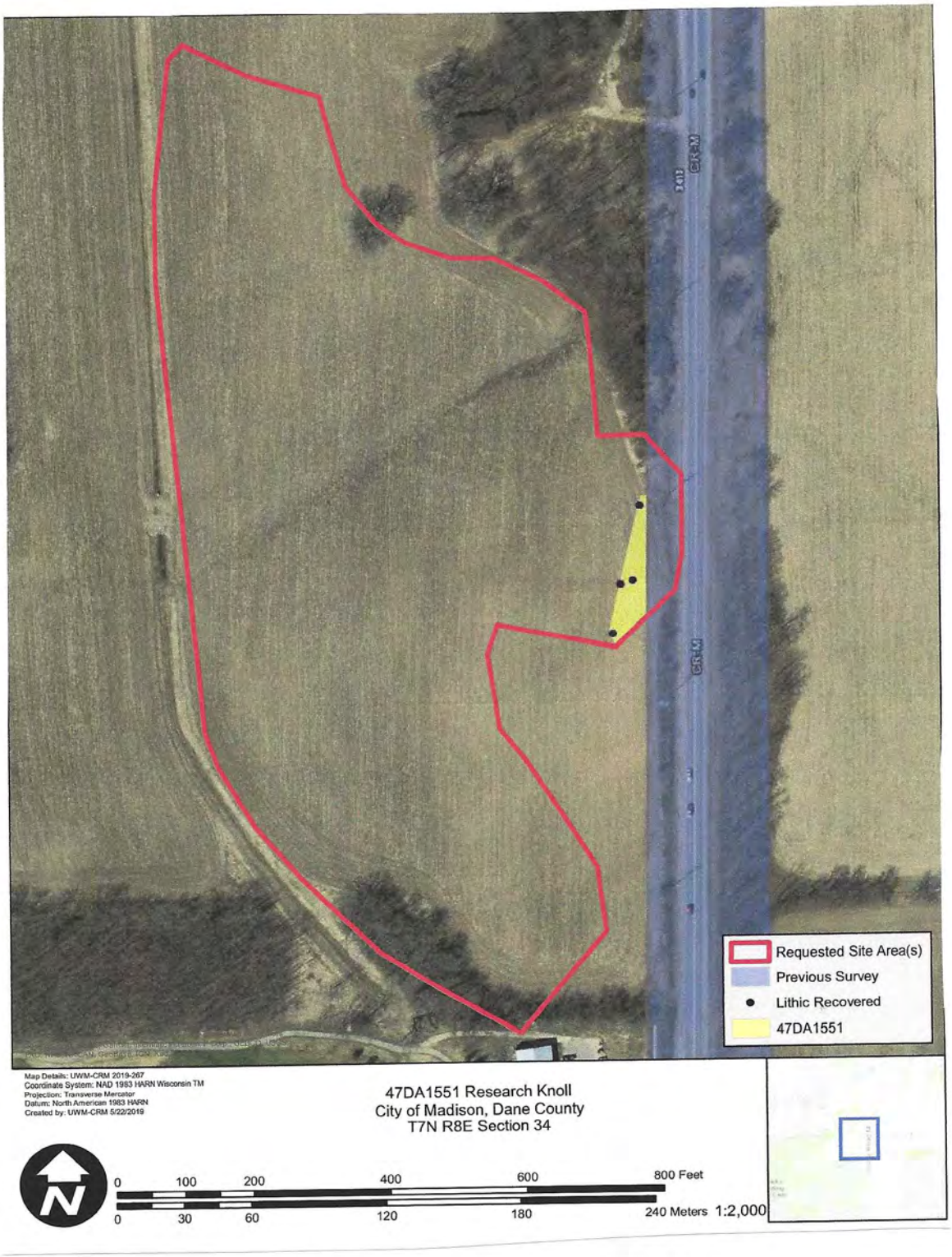


Fig. 8 - Location of the Research Knoll Site (Sterner 2019: Fig. 3.3)

included five non-diagnostic lithic artifacts. As noted in the report, the site is on the west side of CTH 'M' in the C., E1/2, E1/4, SE1.4, NW1/4, Sec. 34, T7N, R8E.

While the report on the site does not indicate that it appears significant, it also noted that it "likely extends beyond the boundaries defined by the current survey, to the south along both the eastern and western sides of CTH M to encompass the entire knoll."

Significantly, the Wisconsin ASI form for the states:

> The currant status of the site is unknown and additional investigation may need to be completed, Please consult with WHS Staff.

Euro-American Cemeteries and Burial Sites.

Euro-American sites may be a more significant part of the planning process relating to cultural resources. First, it may be noted that three Euro-American burial sites are in proximity, but not in the project areas. They are:

BDA-0208 - Sunset Memory Garden - Sec. 23, T7N, R8E – newer cemetery northeast of Area 3

BDA–0082 – Middleton Cemetery Association Cemetery
This cemetery is located in the SE1/4, SW1/4, SE1/4, Sec. 22. It is a relatively early cemetery dating back to 1851. As noted on the Wisconsin ASI form, it was relatively unusual in that it was ecumenical. It is directly across Mineral Point Road in the northeastern corner of Area 3. Although unlikely, it is not impossible that some early burials could have been placed south of the road.

47DA-1418/BDA-0620
This site consists of the burial of two children who may have died, ca. 1909 in the NW1/4, NE1/4, SW1/4, Sec. 22, T7N, R8E at the intersection of Pleasant View Road and, Elderberry Road. Several archaeological studies have identified the potential location of the farmhouse which was in the vicinity of the graves The graves themselves were not found and their exact location remains unknown.

Euro-American Homesteads or Commercial Sites:

The majority of the potential cultural resources in the project areas relate to Euro-American homes and homesteads. In this report, the information in organized by the date of available maps and plats which show the location of various sites or features. A few things may be noted about these resources:

- The location of these sites is approximate. Although past studies have shown them to be relatively accurate, this is not always the case. Additional location information may come from such sources as aerial photos. Drury (1957) included an aerial photo of the William Haak farm complex in Area 1.

- Homesteads include a variety of buildings and structures aside from houses. These include barns, sheds, corncribs, silos and other agricultural outbuildings, as well as features such as wells, privies and trash dumps.

- Unlike most Native American occupation sites, Euro-American homes were not tied to surface water due to the use of wells. However, the homes are frequently in some proximity to roads.

- Homesteads that only show up on a few relatively early plats have some interest as they are easier interpret than homes occupied over a long period of time, such as the Haak family home in Area 1. This is because in long occupied homes with the late 19th and 20th century manufactured goods make it difficult to interpret less diagnostic artifacts This was the author's experience during the excavation of the Wilcox home in the Town of Middleton..

1832 (GLO Map)
This map shows no structures in the project areas. The Fort Winnebago Trail is shown running through Sections 20 and 21, T7N, R8E, northeast of the project areas.

1854 (Anon.)

This map shows little detail. However, it does show the East Midddleton Post Office in Sections 22 and 27, T7N, R8E, in the vicinity of Area 3. This will be a feature of maps for over 100 years.

1861 (A. Ligowsky 1861)- Fig. 5

Various homesteads and other buildings are shown in the project areas as follows:

Area 1
NE1/4, NE1/3, NE1/4, NW1.4, Sec. 34 – Joseph Levitt – in the northeastern corner of the property are the initials "BS" which stands for blacksmith – it is not known if Levitt was the blacksmith

Area 2A
SW1/4, SW1/4, SW1/4, SE1/4, Sec. 27 – homestead
C., SE1'/4, Sec. 27 – Barnes

Area 2B
Nothing

Area 3
NE cor. of Sec. 27 – East Middleton Post Office – structures primarily north or east
SE1/4, NW1/4, NW1/4, NE1/4, Sec. 27 – Annia

Most of this area was occupied by the farm of James Sanford. While his home appears to have been to the immediate east, this property is still important. Sanford was one of the earliest settlers in Middleton Township. He arrived in 1846, but the land claim was entered by his brother in 1837 (Western Historical Co. 1880: 899). His wife was the first Euro-American woman to live in the Town of Middleton (ibid: 1214). Somewhere on his approximately 300 acre property he erected a building to be used as a schoolhouse/church/public building. By 1873, 80 acres of his farm was given to his son, G.W. Sanford, a Civil War veteran (ibid: 1214).

Thus, the 1861 plat shows a number of points of potential interest. These include the Levitt blacksmith shop which could be archeologically significant, as could the building erect by Sanford, although this was not specifically located.

The northeastern corner of Sec. 27, (Area 3) may be interesting. As noted in 1880 (Western Historical Co. 1880: 900),

> At this time the Junction or the Middleton PO was the metropolis of the town. There were two taverns, a saloon or two, one shoe shop and J.D. Sanford had such groceries as the settlers might need.

This refers to the East Middleton settlement

1873 (Harrison and Warner 1873)

Area 1
SE1/4, NE1/4, SW1/4, Sec. 34 – W.H. Kellogg (former Levitt property) – no blacksmith shop shown

Area 2A
Several small lots shown as platted in the SW1/4, SW1/4, SW1/4, SE1/4, Sec. 27

Area 2B
SE1/4, SE1/4, SE1/4, SW1/4, Sec. 27 - G.W. Sanford

Area 3
NW1/4, NW1/4, NE1/4, Sec. 27 – James Sanford property
NE cor. of Sec. 27 – part of the East Middleton P.O.
Three small lots along E1.2, E1/2, NW1/44, NE1/4. Sec. 27

1890 (C.M. Foote and J.W. Henion 1890) – Fig. 9

Area 1
NE1/4, NE1/4, SE1/4, NW1/4, Sec. 34 – Carl Haak (this property remains in the Haak family into at least the 1970's

Area 2A
SW1/4, SW1/4, SW1/4, SE10, Sec. 27 – several small lots

Area 2B
SE1/4, SE1/4, SE1/4, SW1/4, Sec. 27 – G. W. Sanford

Area 3
NW1/4, NW1/4, NE1/4, Sec. 27 – still James Sanford property, but now shows a house East Middleton P.O. and several small lots

1899
Area 1
W. Haak property in same location as earlier

Area 2A – SW1/4, SW1/4, SW1/4, SE1/4, Sec. 27 – F. Sanders

Area 2B
G.W. Sanford location (see 11873 and 1890) is now William Miller

Area 3
NE cor. of Sec. 27 – East Middleton P.O. – church and small lots
W1/2, NE1/4, Sec. 27 and E1/4, NE1/4, Sec. 27 – Sanford property is now Fritz Teckam

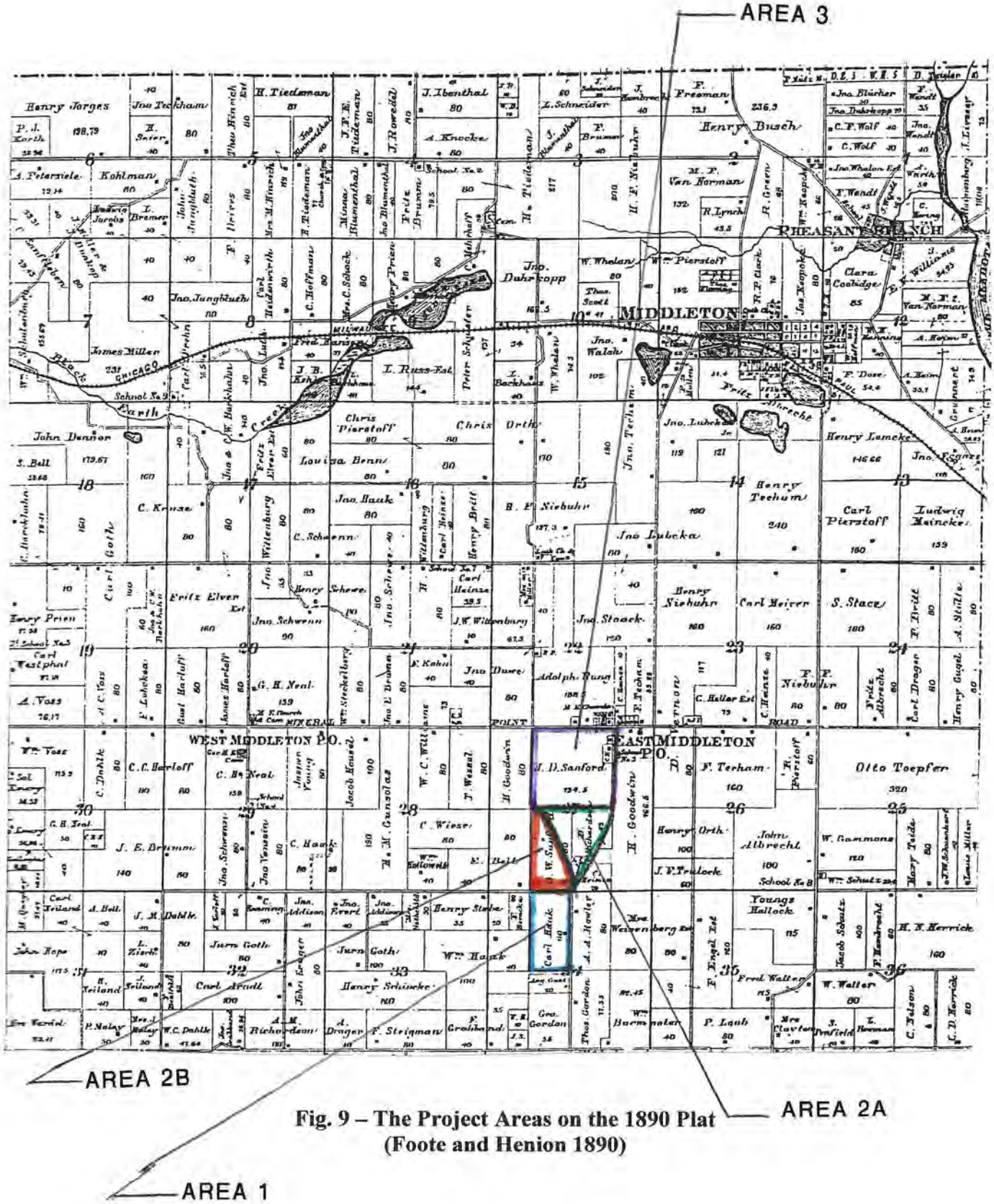


Fig. 9 – The Project Areas on the 1890 Plat (Foote and Henion 1890)

1904 (Madison Daily Democrat 1904) – Fig. 10

Area 1
Haak property in same location

Area 2A
NE1/4, SW1/4, SE1/4, Sec. 27 – W.W. Goodwin

Area 2B
SE1/4, SE1/4, SE1/4, SW1/4, Sec. 27 - W. Miller

Area 3
W1/2, NE1/4 and E1/2, NE1/4, Sec. 27 – James Sanford is gone and replaced by T. Teckjam
NE cor., Sec. 27 – East Middleton P.O. is shown as outside of project area, but a church and one small lot is west of the road

1909 – USGS Map

Area 1 – Haak property is same location

Area 2A – SE1/4, SE1/4, SE1/4, Sec. 27 – H. Rung property

Area 2B
SE1/4, SE1/4, SE1/4, SW1/4, Sec. 27 – house

Area 3
Teckam home is in the same location
Church and cemetery are now shown as east of South junction Road and out of project area

Plats of 1911 (Cantwell Printing Co. 1911) and ca.1922 (W.W. Hixson and Co. ca. 1922)

These plats do not show the locations of many homes. The 1911 plat shows the Teckam home in Area 3, but in a slightly different location than earlier plats. It also shows the East Middleton PO entirely in Area 3.

1926 (Dane County Atlas Co. 1926)

Area 1
Haak home and property in usual location

Area 2A
SE1/4, SE1/4, SE1/4, SW1/4, Sec. 27 – H. Rung – slightly different than 1909



Fig. 10 – The Project Areas on the 1904 Plat (Madison Daily Democrat 1904)

Area 2B
Unclear – may be H. Rung House

Area 3
NW1/4, NW1/4, NW1/4, NE1/4, Sec. 27 – Ms. Teckam
NE cor. – usual location of small lots, a church and part of the East. Middleton P.O.

1931 (Thrift Press 1931)

Area 1
Haak property in same location

Area 2A
NW1/4, SW1/4, SE1/4, Sec. 27 – Henning

Area 2B
Nothing shown

Area 3
NE corner of Sec. 27 – E1/2, NE1/4, NW1/4, NE1/4, Sec. 27 - usual location of East Middleton P.O., a church and small holdings

1937 – Aerial

Area 1
Haak home and property in usual location

Area 2A
Henning property is now shown belonging to Reba Order

Area 2B
SE1/4, SE1/4, SE1/4, SW1/4, Sec. 27 – Rung?

Area 3
Church and cemetery directly north of NE corner of Area 3 – out of project area

1939 (Wisconsin Economic Inventory Map)
Same as 1937 USGS map

1942 (Dane County Surveyor Map)

Area 1
Haak home and property in same location – now W. Haaak

Area 2A
May be Reba Order on H. Rung land – but the land is shown as H. Rung in 1947

Area 2B
Nothing shown

Area 3
Cemetery and church now shown as directly north of NE cor. of Area 3 out of the project area

1947 (Marathon Map Service)

Area 1
Haak home and property in usual location

Area 2A
Rung home in usual location

Area 2B
Nothing

Area 3
Regents first shown as property owners in Area 3

1955 (Derr Printing Co. 1955)

Area 1
Haak home and property in usual location

Area 2A
SW1/4, SW1/4, SE1.4, Sec. 27 – home

Area 2B
Henry Rung show in usual location

Area 3
NE cor. – small holdings in usual location along South Junction Road
Church or school now east side of South Junction Road - out of Project Area 3

1962 – USGS

Area 1
Haak home and property in usual location

Area 2A
House in usual location - Order or Rung

Area 2B
SE1/4, SE1/4, SW1/4, Sec. 27 – home

Area 3
Teckam home in same location
Small lots in NE cor. of Area 3

1963 (Rockford Map Publishers 1963)

Area 1
Haak home and property in usual location

Area 2A
Henry Rung property shown but no home

Area 2B
Henry Rung shown as property owner- no home shown

Area 3
NE cor, Sec. 27 – East Middleton P.O.
Small lots and church

1979 – Aerial
Area 1
Haak home and property in usual place

Area 3

Some development in NE corner

In summation, the following are and most potentially interesting sites relating the Euro-American occupation of the project areas.

Project Area 1:

Perhaps the most interesting site in Area 1 relates to the blacksmith shop in the NE1/4, NE1/4, NE1/4, NW1/4, Sec. 34, T7N, R8E. This is only shown on the 1861 plat of the Town of Middleton. No other structures are shown in that location through time. An investigation of this location might reveal a mid-19th century business that would have been important to the community. The fact that it only appears on the 1861 map may indicate that if found, the site might not be contaminated by later 19th and 20th century materials.

The other site which may be of interest is the Haak home and property. Belonging to the Jospeh Levitt family in 1861. a home appears in the SE1/4, NE1/4, SW1/4, Sec. 34, T7N, R8E on the 1873 plat as belonging to the W.H. Kelloog family. A home remains in the same location until at least 1979. This site might offer the opportunity to see how a Wisconsin homestead changed over 100 years.

Project Area 3:

Two potential locations are of interest in Area 3. The first relates to the James D. Sanford property which in 1861 included Areas 2A, 2B and 3. The 1861 plat appears to show his house outside of Area 3, but the 1890 plat may show a Sanford home in the project area. As discussed, Sanford was an earlier settler in the area, with a substantial farm. He also supplied groceries and other items to the early community of East Middleton. Finally, he is reported to have built an early building on his property used as a church/school/public building.

The second area of interest in Area 3 is in the NE1/4, NW1/4, NE1/4, Sec. 27, T7N, R8E. This is, from at least 1854, a part of the community of East Middleton, which according to the 1877 and 1880 histories of Dane County, was the center of the Town of Middleton, until the current City developed to the north. This community had various businesses and homes. Some plats have a church in this area. It is understood that apportion of the northeastern corner of Area 3 may be excluded from development, but in general this area may be of interest.

Summation and Recommendations

In April, May and June, 2024, the author conducted a literature and records search on potential development sites for the University Research Park in the City of Madison, Wisconsin. The purpose of the study was to determine if any previously identified cultural resources might be impacted by development. The total area of potential impact could be about 127 hectares (314 acres). In the course of the study, a range of data sources were utilized to identify the cultural resources, both prehistoric and historic in and immediately near the project area.

The study indicated that one previously reported Native American site, the Research Knoll Site (47DA-1551) is located in the study area, in this case Area 1. While the site does not appear large or very productive, the report documenting it (Sterner 2019) indicates that it could be more expansive than the area studied. The Wisconsin ASI form indicates, "The current status of the site is unknown and additional investigations may need to be completed."

It is important to state that this study is a literature and records study and no fieldwork was done and little was done in the past. Thus, other Native American sites may certainly be present.

The study did indicate the presence of a number of Euro-American homes and home-steads in the project areas. Area 1 includes a blacksmith shop in the northeastern corner of. Sec. 34, T7N, R8E. This site appears to have been occupied for a relatively short time and could offer insights into this important trade in mid-19th century Dane County, Also present in Area 1 was the home and property long associated with the Levitt family and for many years, the Haak family. This site might provide insights into the changing nature of agricultural properties in this area from ca. 1870's to the 1970's.

Areas 2A and 2B have houses shown on the available plats since the 1860's in the case of Area 2A and the 1870's for Area 2B. For a period of time, these areas were included in the property owned by pioneer James D. Sanford and later (by 1873) his son, a wounded Civil War veteran.

Area 3 has several potential points of interest. The first is any homes or buildings associated with James B. Sanford,, an early and important pioneer in the Town of Middleton. The second is the northeastern corner of the NW1/4, NE1/4, Sec. 27, T7N, R8E. This was a part of the settlement of East Middleton. As noted, this was the focus of early development in the Town of Middleton. The area which developed on both sides of what is now South Junction Road and Mineral Point Road included homes, businesses and a church. It is understood that some of this area may be excluded from development, even if the rest of Area 3 is developed. Further, there appears to be considerable disturbance to this portion of the area.

Again, as no fieldwork was done in association with this study, it is not known if any of the identified sites can be found or what condition they are in. It should be noted that Euro-American cultural resources are by no means restricted to standing building and structures. A site could be significant if associated with a person of historical significance, such as an early pioneer. It could be significant as contributing to our knowledge of an historical event or process, such as the development of agriculture in an area. The blacksmith shop site in Area 1 might fit in this category. It could also be significant on the basis of the artifacts found which provide insights into the lives of the individuals who inhabited the site at a particular time.

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Site files and archives of Archaeological Consulting and Services, Inc.

Archives of the Wisconsin Historical Society

National Register of Historic Places

Charles E. Brown Atlas

Charles E. Brown Manuscripts

Wisconsin Archeologist

ARCHAEOLOGICAL REPORTS INVENTORY FORM

WHS PROJECT # ____ COUNTY Dane

AUTHORS: Philip H. Salkin

REPORT TITLE: A Literaturre aand Records Search on the Cultural Resources of Potential Development Areass for the University Research Park in the City of Madison, Dane County, Wisconsin

DATE OF REPORT (MONTH AND YEAR): 6/24

SERIES/NUMBER: ACS 2227

PLACE OF PUBLICATION: ACS, Inc. POB 260274, Madison, Wisconsin 53726-0274

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]
T7N, R8E, Sec. 27, 34

U.S.G.S. QUAD MAP(S): Middleton, Wi. Quad

SITE(S) INVESTIGATED: none

ACRES INVESTIGATED: 314a AGENCY # University Research Park

INVESTIGATION TECHNIQUES COMPLETED (Check all that apply.)

■ Historical Research	☐ Surface Survey	☐ Geomorphology
☐ Interview/Informant	☐ Soil Core	☐ Underwater
☐ Records/Background	☐ Walk Over/Visual Inspection	☐ Avocational Survey
■ Literature Background Research	☐ Mechanical Stripping	☐ Chance Encounter
☐ Traditional Knowledge	☐ Test Excavation/Phase II	☐ Osteological Analysis
☐ Monitoring	☐ Major Excavation/Phase III	☐ Faunal Analysis
☐ Shovel Testing/Probing	☐ Remote Sensing	☐ Floral Analysis

ABSTRACT: ■ Included in report ☐ Written in space below

Office of the State Archaeologist ARI # _____

ATTACHMENT 3 – SHPO REVIEW

David Cleary

From: madeline.norton@wisconsinhistory.org
Sent: Wednesday, January 8, 2025 8:37 AM
To: David Cleary
Subject: SHPO Review: 25-0007/DA - University of Wisconsin- University Research Park- Pioneer 1st Addition (Lots 46-54 & Outlots 12-15)

Dear David Cleary,

We have completed our review of WHS #25-0007, University of Wisconsin- University Research Park- Pioneer 1st Addition (Lots 46-54 & Outlots 12-15) and find that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them).

If your plans change or cultural materials/human remains are found during the project, please halt all work and contact our office.

Please use this email as your official SHPO concurrence for the project. If you require a hard copy signed form, please contact me and I will provide you a signed copy as soon as possible.

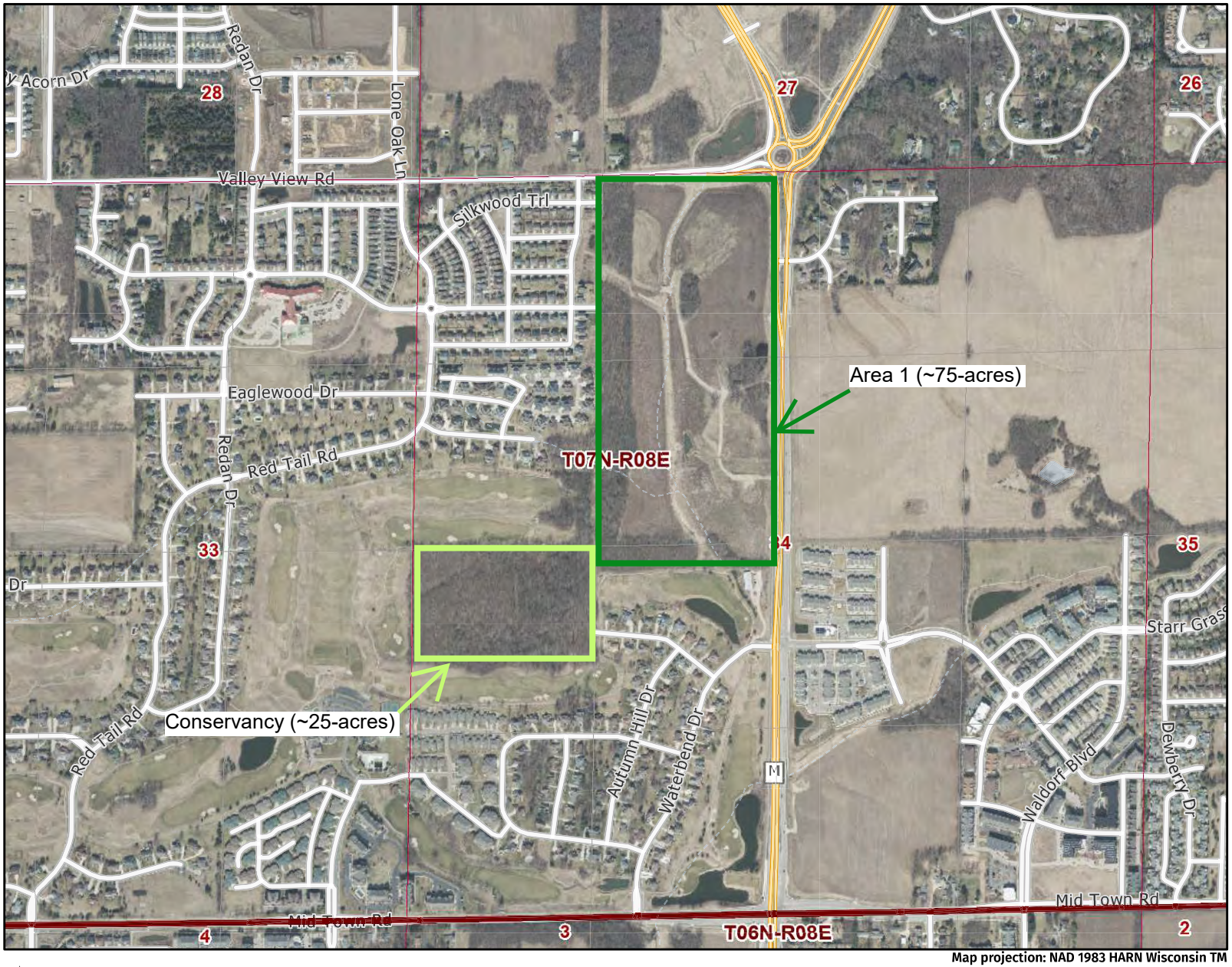
Sincerely,
Madeline Norton
Compliance Reviewer
State Historic Preservation Office

Wisconsin Historical Society
816 State Street, Madison, WI 53706
608-261-2457
madeline.norton@wisconsinhistory.org

Wisconsin Historical Society
Collecting, Preserving, and Sharing Stories Since 1846

ATTACHMENT 4 – PROJECT LOCATION

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Legend: (some map layers may not be displayed)

- PLSS Townships
- PLSS Sections
- PLSS Q-Q Sections
- Latest Leaf Off Imagery

Notes:



Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 960 1,920 Feet
0 280 560 Meters

Service Layer Credits:
DNR 24k Hydrography Style VTL (WTM): Wisconsin Department of Natural Resources, GIS Section, Township, Range, Section: , DNR: WI Latest Leaf-off Airphoto Tiled Imagery Service (WTM): , DNR Transportation Style VTL (WTM): Wisconsin Department of Natural Resources, GIS Section

This map is a product generated by a DNR web mapping application.

This map is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose user agrees to be bound by all disclaimers found here: https://dnr.wisconsin.gov/legal.

Date Printed: 3/12/2026 1:23 PM

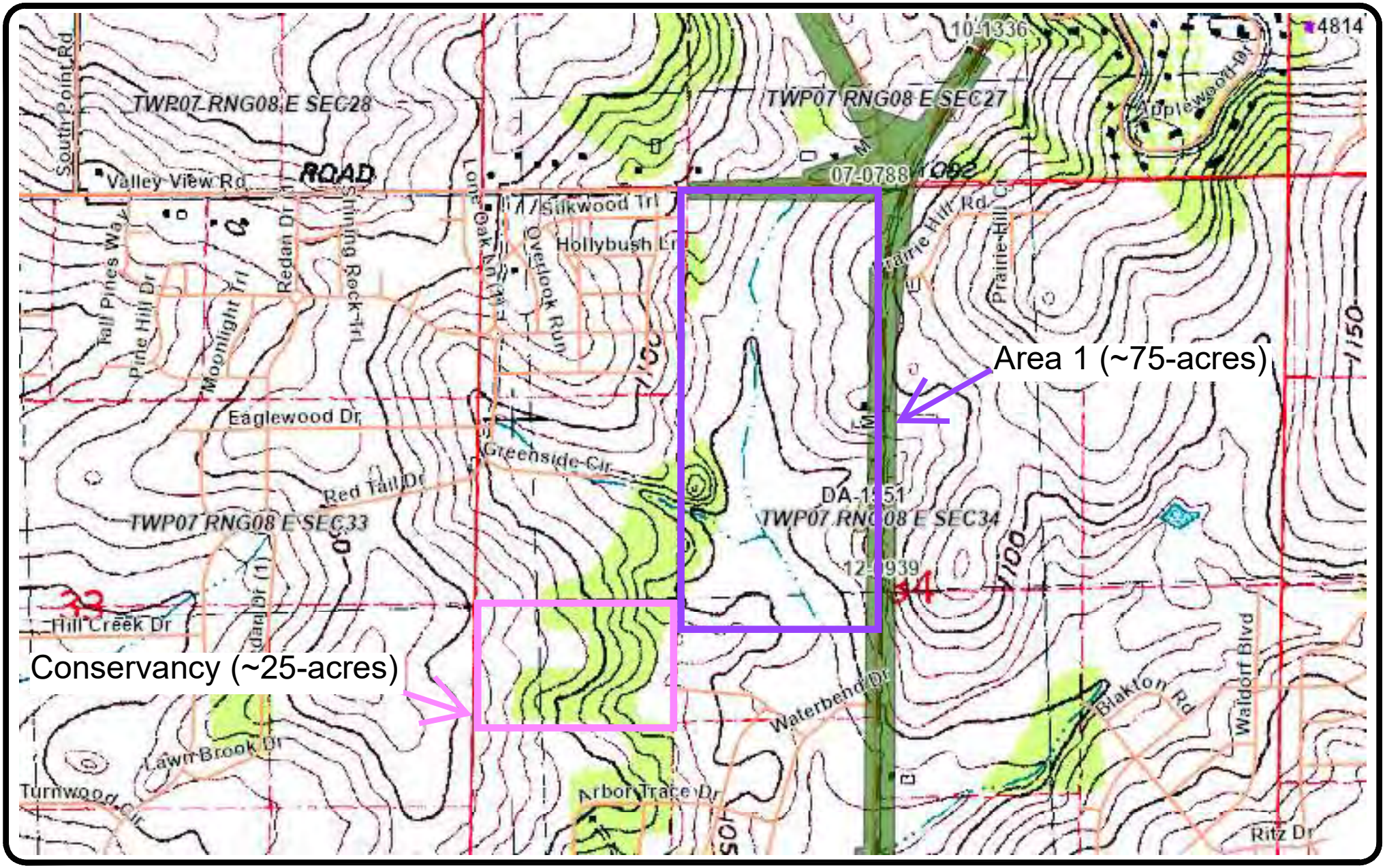
ATTACHMENT 5 – PRELIMINARY DESIGN CONCEPT

University Research Park - Pioneer 1st Addition (Vetter) PLAT Purchased by URP		
Proposed Landuse	**Area (AC)**	**Area(SF)**
Buildable Lot Area	53.3	2,322,184
Woodland Conservancy	32.1	1,396,969
Stormwater Management	10.9	475,675
Public ROW & Outlots	6.6	287,932
Sub-Total	**102.9**	**4,482,760**

Updated **March 21, 2025**



ATTACHMENT 6 – WHPD MAP



March 2026

Exported from the WHPD Database on 3/17/2026

This drawing represents intellectual property of Tetra Tech. Any modification to the original by other than Tetra Tech personnel violates its original purpose and as such is rendered void. Tetra Tech will not be held liable for any changes made to this document without express written consent of the originator.

TETRA TECH

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

University Research Park 2 Vetter Parcel
DFD Project Number 25H4I
Wisconsin Historic Preservation District (WHPD) Map

ATTACHMENT

6

Clark, Aden

From: madeline.norton@wisconsinhistory.org
Sent: Tuesday, April 7, 2026 12:27 PM
To: Clark, Aden
Subject: SHPO Review: 25-0007/DA - University of Wisconsin- University Research Park- Pioneer 1st Addition (Lots 46-54 & Outlots 12-15)

You don't often get email from madeline.norton@wisconsinhistory.org. Learn why this is important

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Dear Aden Clark,

We have completed our review of WHS #25-0007, University of Wisconsin- University Research Park- Pioneer 1st Addition (Lots 46-54 & Outlots 12-15) and find that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them).

It is the opinion of the WI SHPO you have fulfilled your section 106 of the National Historic Preservation Act (NHPA) consultation requirements with our office. If your plans change or cultural materials/human remains are found during the project, please halt all work and contact our office.

Please use this email as your official SHPO concurrence for NHPA requirements of the project. If you require a hard copy signed form, please contact me and I will provide you a signed copy as soon as possible.

Sincerely,
Madeline Norton
Compliance Reviewer
State Historic Preservation Office

Wisconsin Historical Society
816 State Street, Madison, WI 53706
608-261-2457
madeline.norton@wisconsinhistory.org

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APPENDIX G: DRAFT EIS PUBLIC MEETING

TETRA TECH

Meeting Minutes

University Research Park 2 (URP2) – Vetter Parcel Environmental Impact Assessment (EIA) Public Meeting

Date:	Thursday, July 9, 2026
Time:	5:00 PM
Meeting called to order by:	Teri Daigle

In Attendance

A total of 11 participants attended the meeting.

Project Team and Agency Representatives

- Teri Daigle – Tetra Tech (EIA Project Manager)
- Aden Clark – Tetra Tech
- Brenden Johnson – Wisconsin Division of Facilities Development (DFD)
- David Cleary – University Research Park (URP)
- Quinlan Purkey – University Research Park (URP)
- Samantha Herheim – KL Engineering
- Kristy Treichel – KL Engineering

Public Participants and Stakeholders

- Susan Udelhofen – Bentley Green Condominium Association
- David Huntsman – Applewood Hills HOA President
- William Putnam – City of Madison
- Chris Petykowski – City of Madison

Attendance report indicated meeting participation from representatives of URP, DFD, City of Madison, consultants, and members of the public.

Minutes

Teri Daigle opened the meeting, welcomed attendees, and explained that Tetra Tech had been retained as the third-party environmental consultant responsible for preparing the Environmental Impact Assessment (EIA). The meeting agenda included:

- Overview of the Wisconsin Environmental Policy Act (WEPA) process

- Project description
- Review of alternatives considered
- Potential environmental impacts
- Public comment period
- Next steps in the EIA process

The meeting was recorded, and attendees were informed that comments could also be submitted through the project website. The public notice and draft EIA were posted online and advertised in the Wisconsin State Journal.

WEPA Environmental Review Process

Teri Daigle summarized the Wisconsin Environmental Policy Act (WEPA) process:

1. The WEPA review for this project began in February 2026.
2. A scoping letter was issued on February 19, 2026.
3. Public and agency comments received during scoping were incorporated into the draft EIA.
4. The draft EIA public comment period began June 26, 2026 and was scheduled to conclude July 10, 2026.
5. Following review of comments, a Final EIA will be prepared with a determination recommending either:
    - No Further Action, or
    - Preparation of an Environmental Impact Statement (EIS).

Project Overview

Project Location

The Vetter Parcel consists of approximately 100 acres on Madison's west side near the intersection of Valley View Road and South Pleasant View Road (County Highway M). The site is part of the planned University Research Park 2 (URP2) expansion.

Existing Conditions

Current site conditions include:

- Former agricultural land
- Fallow fields and grasslands
- Wooded areas
- Existing stormwater conveyance features
- One agricultural outbuilding

The site is adjacent to residential neighborhoods and Hawks Landing Golf Course.

Samantha Herheim of KL Engineering presented the Proposed Project design details.

Proposed Infrastructure Improvements

The project consists of site preparation and infrastructure installation rather than building construction. Proposed improvements include:

- Roadways and public streets
- Sidewalks and bike facilities
- Stormwater management facilities
- Water, sanitary sewer, and utility infrastructure
- Street lighting
- Preparation of nine future development lots

A 25-acre conservancy area and tree preservation buffer are proposed to remain protected.

Pathway and Conservancy Alternatives

KL Engineering presented three alternatives for public pedestrian and bicycle access through the conservancy area.

Alternative 1

- 10-foot asphalt shared-use path
- ADA-compliant
- Includes lighting
- Requires grading and greater tree impacts

Alternative 2

- 6-foot aggregate walking trail
- Follows natural topography
- Reduced tree impacts
- Not ADA-compliant
- No lighting

Alternative 3

- ADA-compliant asphalt path utilizing an existing utility easement through Hawks Landing
- Reduced grading impacts
- Requires acquisition of a new easement agreement
- Includes lighting

The project team indicated that these alternatives would be presented to the City of Madison for review and approval.

Teri Daigle of Tetra Tech presented the Alternatives Evaluated in the EIA and the Environmental Impact Summary. Public attendees were reminded to review the Draft EIA for more details, as the public meeting presentation is a high level summary only.

Alternatives Evaluated in the EIA

1. No Action Alternative
    - Site remains vacant
    - Existing woodlands retained
    - No construction impacts
    - No infrastructure or economic development benefits
    - Existing drainage challenges remain unresolved
2. Proposed Action Alternative
    - Approximately 43 acres of grading
    - Approximately 3,900 feet of roadway construction
    - Preservation of a 25-acre conservancy area
    - 100-foot woodland/tree buffer
    - Implementation of tree protection measures and mitigation practices

The proposed action was determined to better balance development needs and environmental protection.

Environmental Impact Summary

Physical Impacts

Potential impacts include:

- Vegetation clearing
- Selective tree removal
- Earthwork and grading
- Temporary dust, noise, and traffic impacts
- Increased impervious surfaces
- Mitigation measures include erosion controls, stormwater BMPs, and construction management plans.

- Water Resources
- No wetlands occur within the immediate development footprint.
- Existing stormwater conveyance systems will be enhanced.
- Aquatic impacts are expected to be minimal and temporary.

Biological Resources

Potential impacts include:

- Woodland disturbance
- Wildlife displacement
- Tree removal

Mitigation includes:

- Tree preservation planning
- 100-foot woodland buffer
- Native vegetation restoration
- Invasive species control measures

Cultural and Historic Resources

- The State Historic Preservation Office found no adverse effects on historic or archaeological resources.

Transportation

Construction may temporarily increase truck traffic and travel delays. Long-term transportation improvements include:

- New roadway connections
- Sidewalks
- Bicycle facilities
- Future transit service

Future vertical development will require separate transportation demand management planning and city review.

Public Comments

1. **Susan Udelhofen – Bentley Green Condominium Association**

Mrs. Udelhofen raised concerns regarding:

- Preservation of the 100-foot woodland buffer adjacent to her condominium development.

- Potential impacts from proposed pedestrian pathways.
- Future lighting associated with later site development.
- Future traffic increases resulting from eventual development of the site.

Project representatives clarified:

- A 100-ft woodland buffer is intended to remain undisturbed aside from potential invasive species management. The 100-ft buffer does not encompass the entire existing tree line.
- Proposed pathway alternatives connect to Greenside Park which is located south of Susan's condominium area.
- Future buildings, parking lots, and lighting are not part of the current infrastructure project.
- The protected 100-foot buffer will remain in place regardless of future lot development.

2. David Huntsman – Applewood Hills Homeowners Association

Mr. Huntsman submitted comments regarding traffic and construction logistics, specifically:

- Concern that regional traffic projections may underestimate future conditions because nearby residential development was not evaluated through a comparable traffic study.
- Concern about congestion near the Valley View Road and Pleasant View Road roundabout.
- Request that haul routes for construction traffic utilize Pleasant View Road rather than Junction Road where feasible.
- Concern about traffic signal timing and congestion near the Beltline and Mineral Point Road corridor based on previous URP2 construction activities.

Project representatives responded that:

- A Traffic Impact Analysis (TIA) is currently underway and includes future traffic growth assumptions. However, the residential development currently being constructed across S. Pleasant View Road (Cty Hwy M) was not required to prepare a TIA by Dane County.
- Construction haul routes will require coordination with Dane County and the City of Madison.
- Comments regarding haul routes and traffic signal timing will be considered and shared with relevant agencies.

Additional Discussion

David Cleary noted that limited tree removal may be necessary within the 100-foot buffer, where utility connections will occur along portions of the western property boundary. These impacts are expected to be localized.

Next Steps

Following the close of the public comment period:

1. All comments will be reviewed and documented.

2. Comments will be provided to the project design team.
3. Appropriate revisions will be incorporated into the Final EIA.
4. Pathway alternatives will be presented to City of Madison review bodies:
    - Transportation Commission – July 29, 2026
    - Board of Public Works – August 5, 2026
    - Common Council – September 8, 2026
5. Final EIA documentation and WEPA determination will be completed.

Adjournment

With no additional comments received, the public meeting was adjourned at approximately 6:00 PM.

Meeting recording or transcript available upon request.



Environmental Impact Assessment:
University Research Park 2 Vetter Parcel

DFD#25H4I

5:00 PM Thursday, July 9, 2026

UNIVERSITY RESEARCH PARKS
UNIVERSITY OF WISCONSIN-MADISON

DEPARTMENT OF ADMINISTRATION

TETRA TECH

UNIVERSITIES OF WISCONSIN

KL Engineering
[A] Better Experience

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1

Meeting Agenda

TETRA TECH

- Introduction
- WEPA Process
- Project Description/Alternatives/Schedule
- Potential Impacts
- DEIA Comment Period
- Closing Comments

2

Introduction

- Meeting/Attendance recorded through Teams, comment sheets
- Public Notice in the Wisconsin State Journal on Friday, June 26, 2026
- DEIA report and public notice posted on project website: https://www.UniversityResearchParkIIVetterEIA.com/.
- Draft EIA public meeting will be recorded, and minutes developed
- EIA Team Members and Design Team

3

EIA Team Members and Design Team

DFD
- Brenden Johnson, PE – Project Manager

URP
- David J. Cleary, PE – Site & Civil Project Director

UW
- Donald Keck, PE – Engineering Specialist

EIA Consultant – Cornerstone Environmental (Tetra Tech)
- Teri Daigle – Project Manager
- Aden Clark – Author

A/E Design Team – KL Engineering
- Kristy Treichel, PE – Lead Project Engineer
- Sam Herheim, PE – Project Engineer

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Public Meeting Purpose

TETRA TECH

- Describe Wisconsin Environmental Policy Act (WEPA) and Environmental Impact Assessment (EIA) Process
- Describe proposed project, alternatives, and schedule
- Discuss the potential project impacts
- Obtain and share comments from the Draft EIA meeting with design team for consideration in design process
- Incorporate appropriate comments and design team input into Final EIA

5

Wisconsin Environmental Policy Act (WEPA) Process

TETRA TECH

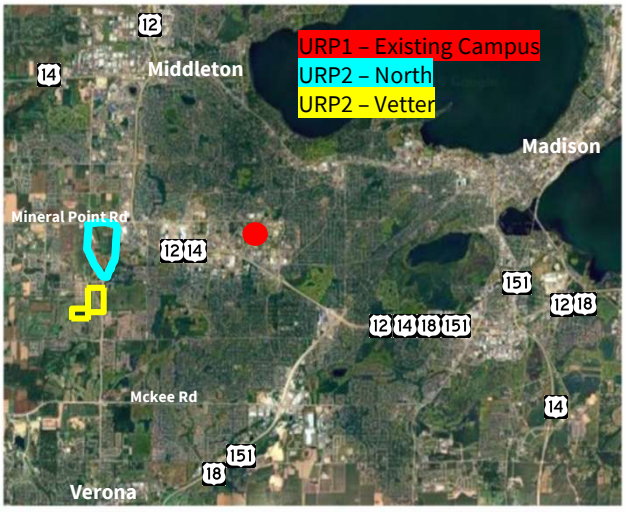
- WEPA – 1971
- Purpose – Evaluate environmental effects of project
- Major steps in process:
  - Scoping letter with comment period (February 19, 2026 to March 20, 2026)
  - Prepare Draft EIA report
  - Draft EIA submittal with 15-day (min.) comment period (June 26, 2026 to July 10, 2026)
    - Available for download at https://www.UniversityResearchParkIIVetterEIA.com/ and hard copy at Madison Public Library (Central Library) and UW-Madison Helen C. White Library
    - Draft EIA public meeting (July 9, 2026)
  - Prepare Final EIA report with determination

6

Project Location

TETRA TECH





7

Project Need

TETRA TECH

- URP's original campus (URP-1) is approaching capacity.
- Between 2010 and 2020, URP's managed footprint of laboratories and offices increased by 40 percent.
- Before vertical development by future users can occur, URP must complete site infrastructure.
- In 2005, Wisconsin Act 25 authorized $15.0 million in Program Revenue Supported Borrowing (PRSB) for roads and utilities in URP2.

8

General Project Description - Overview

TETRA TECH

- 75-acre developable parcel
  - Stormwater features
  - Public and private utilities
  - Roadway section with curb and gutter, sidewalk, paths, and street lighting
- 25-acre conservancy
  - Path

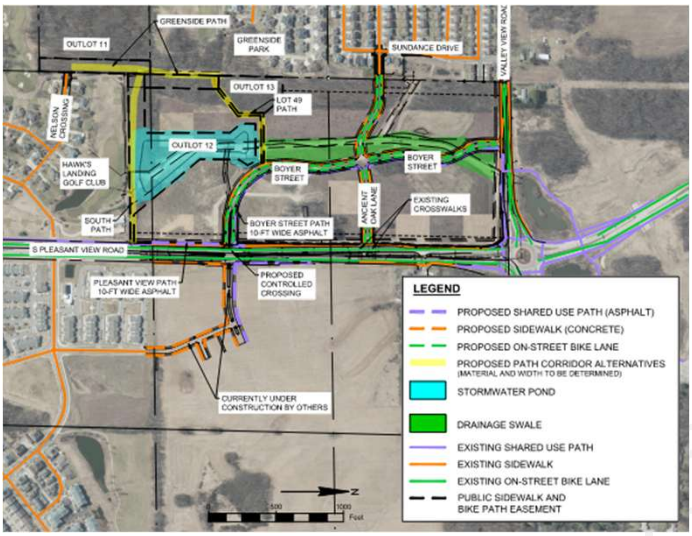


9

General Project Description – Stormwater and Utilities

TETRA TECH

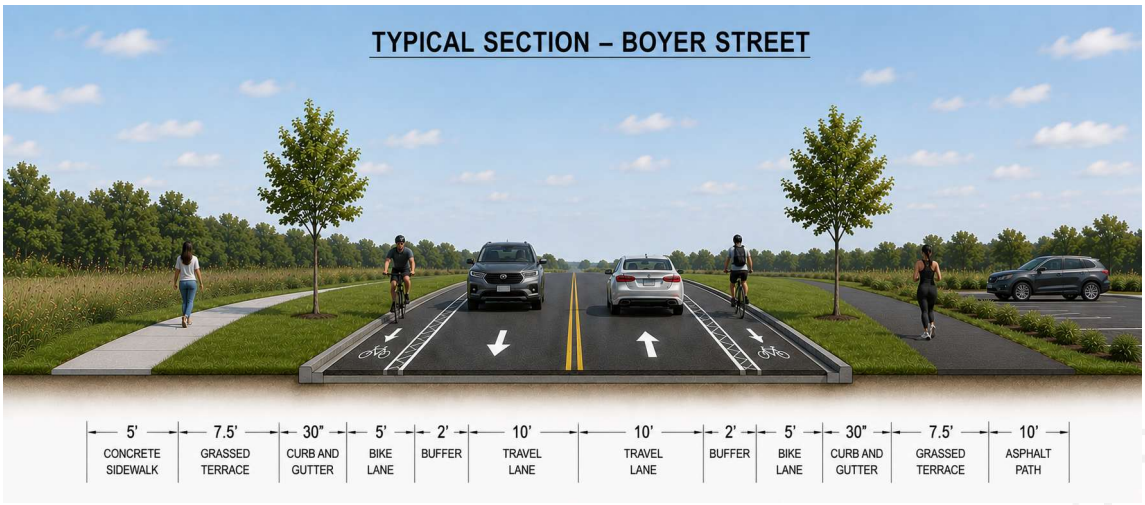
- Stormwater features
  - Conveyance greenway
  - Wet detention pond
- Public and private utilities
  - Storm sewer
  - Sanitary sewer
  - Water
  - Private – gas, fiber, electric



10

General Project Description – Roadway Section

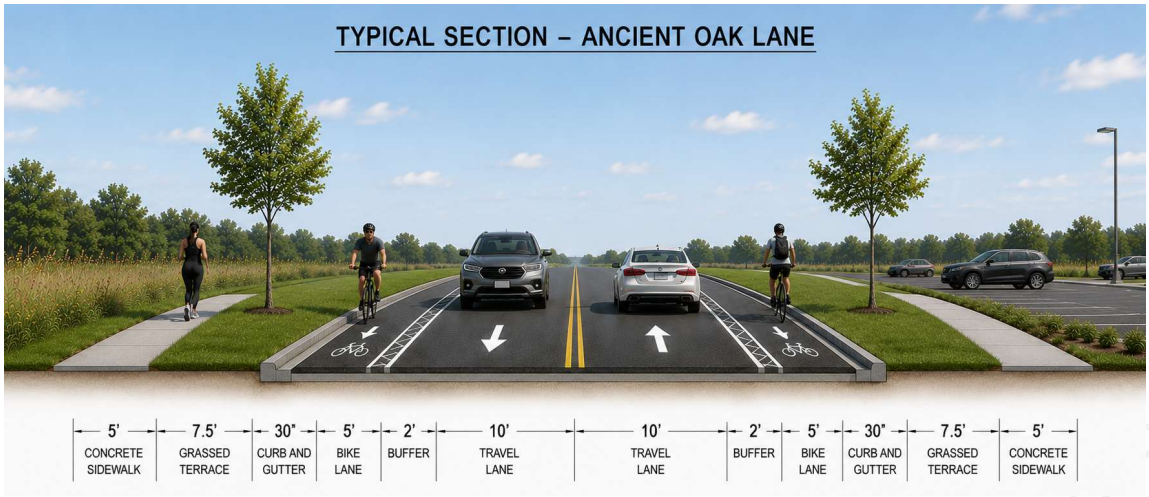
TETRA TECH



11

General Project Description – Roadway Section

TETRA TECH

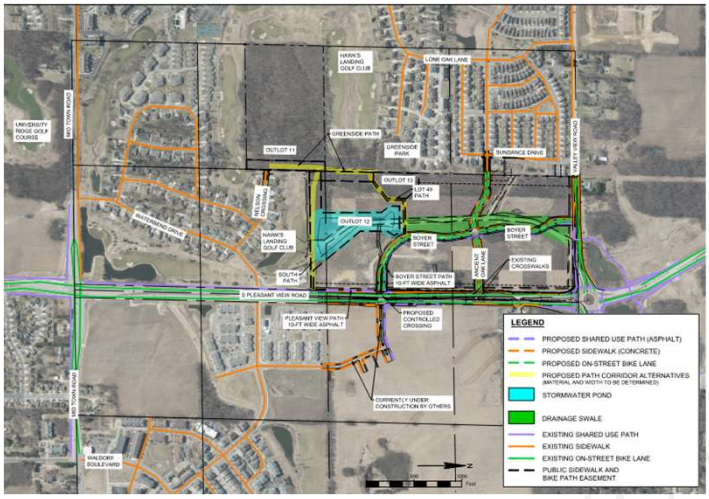


12

General Project Description – Conservancy

TETRA TECH

- Conservancy
  - Outlot 11
  - 25 acres private open space
  - Preserves existing tree cover and natural character
  - 100’ wide public sidewalk and bike path easement on east side
- Woodland/Landscape Buffer
  - 100’ wide along west side of 75 acre parcel
  - Outlot 13
    - 2.6 acre private open space
    - Preserves existing tree cover and natural character
  - Public sidewalk and bike path easement overlays these

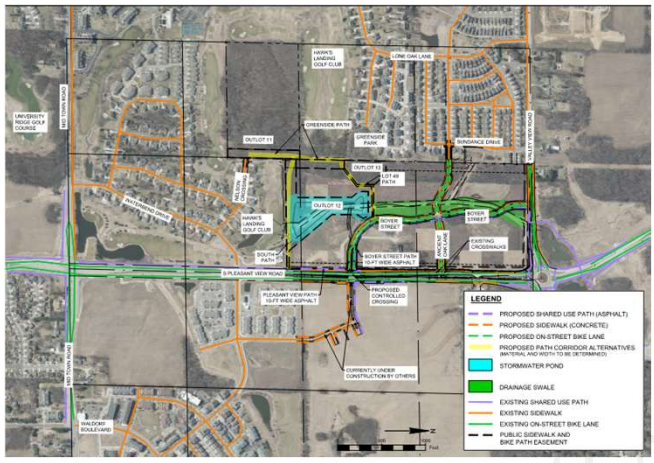


13

General Project Description – Paths

TETRA TECH

- Public sidewalk and bike path easement
  - Plat requirement
  - Shared use path
  - ADA
  - With lighting
- Path design uncovered extent of impacts to tree cover and natural area
- Public comments had been received on maintaining trees and natural area
- URP is re-visiting the plat requirement

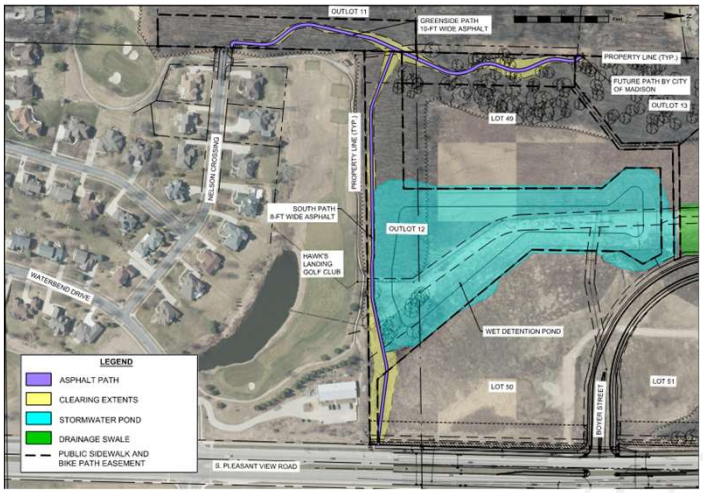


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General Project Description – Path Alternative 1

TETRA TECH

- Alternative 1
  - 10’ shared use asphalt path Nelson Crossing to Greenside Park
  - 8’ shared use asphalt path Pleasant View to 10’ path
  - Meets all ADA requirements
  - Includes lighting

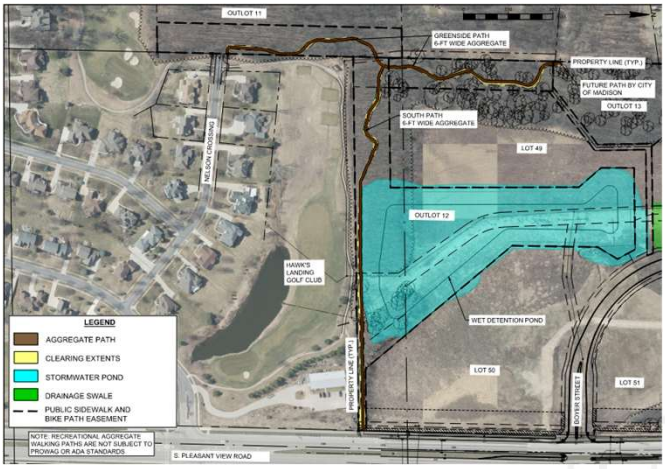


15

General Project Description – Path Alternative 2

TETRA TECH

- Alternative 2
  - 6’ aggregate walking path Nelson Crossing to Greenside Park
  - 6’ aggregate walking path Pleasant View to path
  - Does not meet ADA- not required for walking path
  - Follows natural topography more closely
    - Steep sections
    - Able to avoid more tree impacts

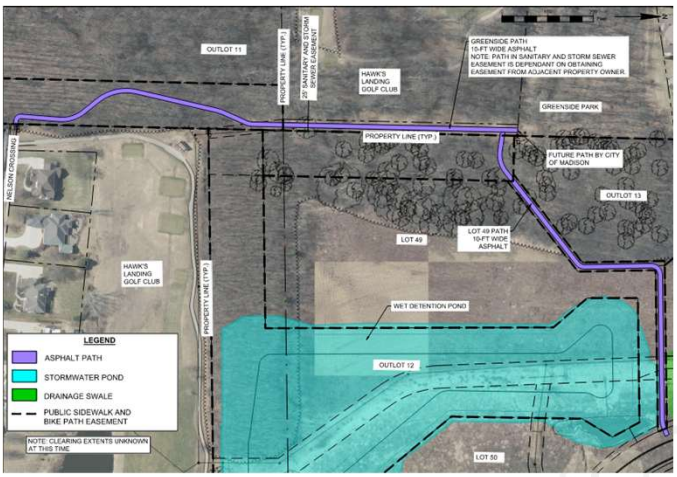


16

General Project Description – Path Alternative 3

TETRA TECH

- Alternative 3
  - 10’ shared use asphalt path Nelson Crossing to Greenside Park
  - Requires easement on Hawks Landing property
  - 10’ shared use asphalt path Boyer St to 10’ path
  - Meets all ADA requirements
  - Includes lighting
  - **Contingent on obtaining easement**



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General Project Description – Path Alternatives – Next Steps

TETRA TECH

- Requesting feedback
- 7/29 Madison Transportation Commission meeting
- 8/5 Madison Board of Public Works
- 9/8 Madison Common Council

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Alternatives Considered

- **No-Action**
  - Leave site vacant; retain woodlots
  - Avoid construction impacts
  - No new infrastructure, jobs, or URP benefits
  - Ongoing runoff/maintenance issues; conflicts with 2011 Midtown plan
- **Proposed**
  - Proceed with URP build-out (approx. 43 acres grading; 3,900 ft roadway)
  - Preserve 25-acre conservancy and 100-ft tree buffer
  - Apply tree protections (avoidance by design, fencing, field fitting)
  - Balances infrastructure, jobs, and conservation; subject to Planning conditions

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Proposed Project Schedule

Milestone	Date
AE Selection	October 2025
Preliminary Design	Summer 2026
UW Board of Regents (BOR) Approval	Fall 2026
State Building Commission (SBC) Approval	Fall 2026
Bid Date	Winter 2027
Start Construction	Spring 2027
Substantial Completion	Fall 2027
Final Completion	Spring 2028

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Potential Impacts – Physical

- Site clearing, grading, cut/fill, compaction
- Increased impervious area → stormwater/hydrology changes
- Short-term dust, emissions, noise, and construction traffic
- Erosion controls/BMPs expected to prevent water/soil impacts
- Long-term benefits: improved stormwater, paved access, reduced track-out

21

Potential Impacts – Biological

- Removal of select trees/woodland
- Potential wildlife displacement; effects from lighting/human activity
- Intermittent swale disturbance may disrupt riparian connections
- Tree preservation plan + 100-ft buffer and protection measures
- Post-construction native plantings, retention basin, invasive control → ecological gains

22

Potential Impacts – Social/Cultural

- Temporary access changes, construction noise, localized disruptions
- Short-term traffic increases affecting local travel times
- Long-term benefits: new streets, sidewalks, bike facilities, improved public realm
- Noise controls: standard hours 7:00 AM–7:00 PM; variances required for after-hours work
- Mitigation: staging, communications, maintain access where feasible

23

Potential Impacts – Historical/Archaeological

- State Historical Preservation Officer: no eligible historic properties affected (no adverse effect)
- No resources identified in the conservancy area

24

Potential Impacts – Economic

- Local businesses or landowners immediately adjacent could experience some short-term impacts during construction
- Construction investment ≈ $11.69M → direct, indirect, induced jobs
- Long-term: increased employment/research capacity, business attraction, larger tax base

25

Potential Impacts – Parking and Transportation

- Construction phase: Increased truck/vehicle movements → intermittent delays
- Mitigation: traffic control plans, designated staging zones, signage, maintain access
- Long-term: new durable streets, improved circulation, enhanced multimodal access

26

Potential Impacts – Utilities

- New utilities: modern, code-compliant water/sewer/stormwater/electrical systems (improved reliability & capacity)
- Sustainability opportunities: efficient lighting, high-efficiency systems, utility routing to protect trees

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Draft EIA Comment Period

Purpose

- Solicit public input to identify potential issues and concerns specific to the proposed project
- Distribute comments to design team for consideration in design process
- Incorporate comments and design team considerations into the Final EIA document

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Draft EIA Comment Period – Open for Comments

- Please state name, entity representing, and comment
- E-mail comments to aden.clark@tetratech.com

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Closing Remarks

Draft EIA

- Comment period concludes tomorrow (July 10, 2026)
- Available at Madison Public Library (Central Library) and UW-Madison Helen C. White Library
- Available for download at https://www.UniversityResearchParkIIVetterEIA.com/
- Final EIA Release anticipated in late July 2026

30

WISCONSIN STATE JOURNAL

AFFIDAVIT OF PUBLICATION

Wisconsin State Journal
1901 Fish Hatchery Rd, Madison, WI 53713
(800) 362-8333

State of Florida, County of Broward, ss:

I, Anjana Bhadoriya, of lawful age, being duly sworn upon oath depose and say that I am an agent of Column Software, PBC, duly appointed and authorized agent of the Publisher of Wisconsin State Journal, a newspaper at Madison, County of Dane, State of Wisconsin, and that an advertisement of which the annexed is a true copy, taken from said paper, was published therein on the dates listed below:

Publication Dates:
Jun 26, 2026

Notice ID: Dxp0qFxCustvaevypASG
Notice Name: 25H4I DEIA Legal Notice, 209-4261270

Section: Legals

Category: 0100 LEGAL NOTICE

Publication Fee: $193.64

Anjana Bhadoriya

_____
Agent

VERIFICATION

State of Florida
County of Broward

Signed or attested before me on this: 06/26/2026

S Smith
_____
Notary Public

Notarized remotely online using communication technology via Proof.

SHERI SMITH
Notary Public - State of Florida
Commission # HH804448
Expires on May 31, 2030

LEGAL NOTICE

Availability of Draft Environmental Impact Assessment and Notice of Public Meeting
Proposed University Research Park 2 Vetter Parcel
DFD Project #25H4I

A public meeting to present the Draft Environmental Impact Assessment (DEIA) for the proposed University Research Park 2 (URP2) Vetter Parcel project will be held virtually at 5:00 p.m. on Thursday, July 9, 2026 via Microsoft Teams Meeting (link on website: https://www.UniversityResearchParkIIVetterEIA.com/.).

A description of the project and potential environmental impacts will be presented, and all persons will be afforded a reasonable opportunity to identify both orally and in writing any support, issues, or concerns they believe should be addressed during the EIA process for this proposed project. The EIA will be prepared in accordance with the Wisconsin Environmental Policy Act (WEPA), Wisconsin Statutes 1.11. The State of Wisconsin Department of Administration, Division of Facilities Development (DFD) has retained Cornerstone Environmental Group, a Tetra Tech company, on behalf of URP2 to prepare an EIA for the URP2 Vetter Parcel project.

This project will design and construct public improvements, enhanced stormwater management facilities, and support the ongoing development of URP2 Vetter Parcel located at the southwest intersection of S. Pleasant View Rd. (County Highway M) and Valley View Rd. in Madison, Dane County, Wisconsin. The URP2 Vetter Parcel includes a 75-acre area for development (Vetter Parcel) and an attached 25-acre conservancy area (Conservancy). Project work within the 75-acre Vetter Parcel consists of design and construction of site improvements to include site preparation, erosion control, stripping existing topsoil, mass grading, stormwater management, fine grading, public utilities, base course, roadway section with curb and gutter, sidewalk, street lighting, private utilities, multi-use path and site restoration (approximately 43 acres of mass grading disturbance and 3,900 LF of roadway). Upon completion, URP will market fully improved lots and negotiate tenant/buyer/URP responsibilities to be captured in final real estate development purchase or lease agreement(s) as users and/or buyers are identified. There are currently no specific development proposals for individual parcels in the plat. The 25-acre Conservancy will remain a conservancy with only an impervious asphalt walking path added that connects with the Vetter Parcel improvements. The project cost is anticipated to be $11,686,300 and is funded entirely through existing program revenue supported borrowing.

The purpose of the DEIA is to identify the potential impacts of the project on the physical, biological, social, and economic environments. The DEIA describing these potential impacts is being made available to the public and to appropriate federal, state, and local agencies for a 15-day minimum review period, which begins June 26, 2026, and concludes July 10, 2026. Copies of the document will be available for review at the City of Madison Public Library and UW-Madison Helen C. White Library, or on the following project website: https://www.UniversityResearchParkIIVetterEIA.com/.

If you are interested in this project or have any information relevant to it, we welcome your comments, suggestions, or other input. For consideration in the Final EIA, please submit your comments at the meeting or in writing by July 10, 2026. Comment forms are available via the project website.

Comments in writing can be sent to:

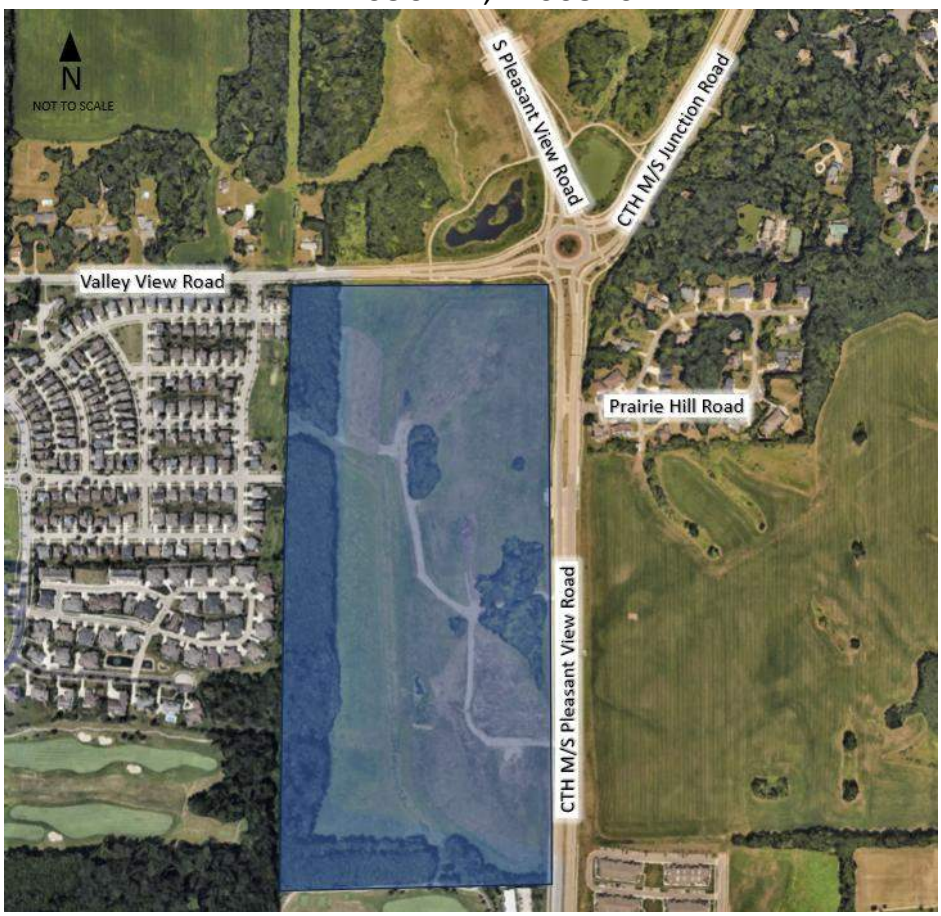
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WSJ: June 26, 2026
COL-WI-12010489 WNAXLP

APPENDIX H: TRAFFIC IMPACT ANALYSIS

University Research Park
Traffic Impact Analysis

CITY OF MADISON
DANE COUNTY, WISCONSIN



SUBMITTED: JULY 9, 2026

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University Research Park
City of Madison, Dane County, Wisconsin
Traffic Impact Analysis

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1.0 Introduction

The University Research Park is proposing a development in the southwest quadrant of the intersection of S Pleasant View Road with Valley View Road/CTH M/S Junction Road in Madison, Wisconsin. The land is currently undeveloped. The development proposal includes constructing public improvements to facilitate development of private research and development facilities. That development is anticipated to consist of nine facilities used for the purposes of research and development, each approximately 100,000 square feet (sf) in size

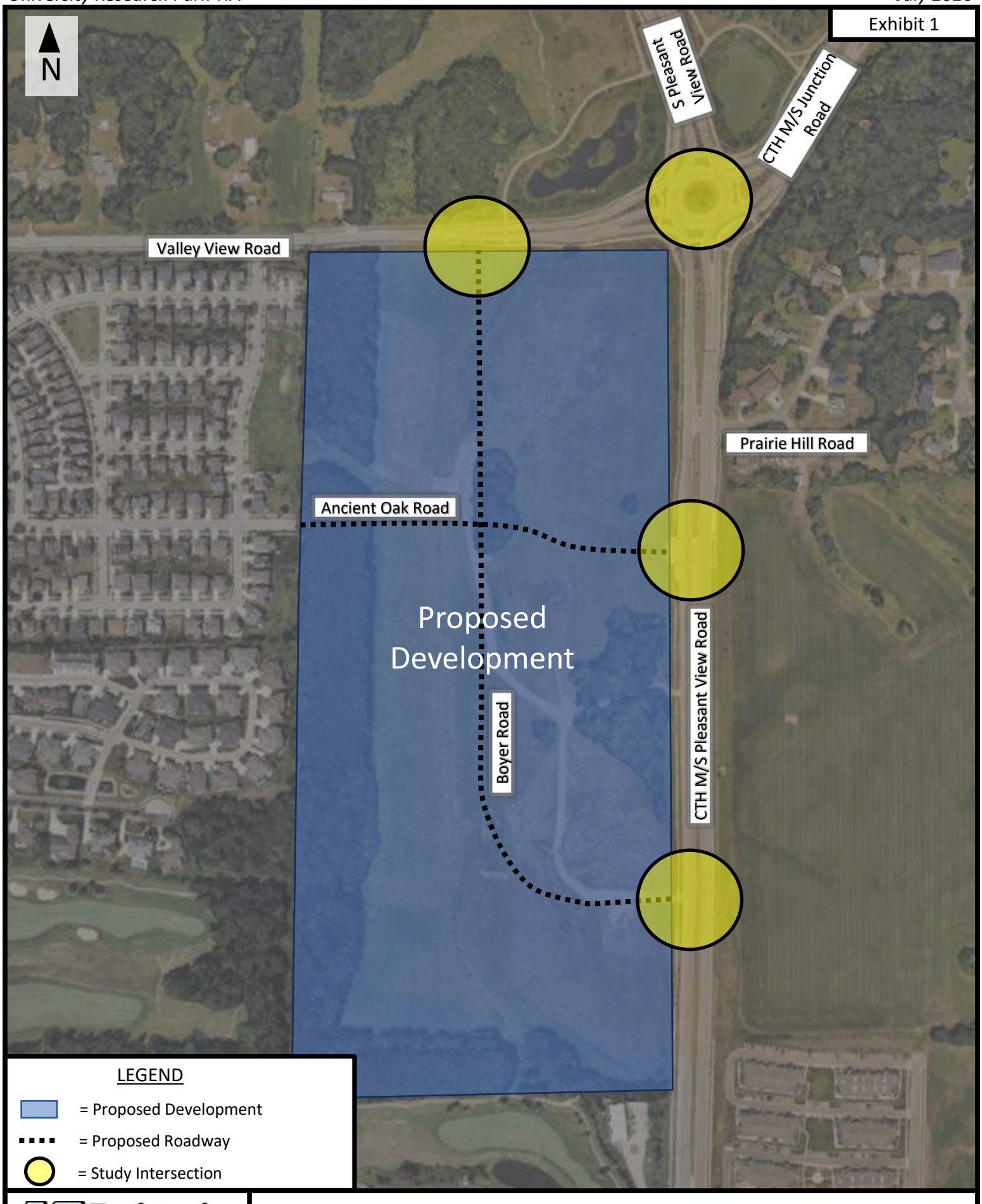
KL Engineering, Inc. was contracted by The Wisconsin Department of Facilities Development to perform a traffic impact analysis (TIA) for the proposed development. This report documents the study that was completed. Construction is planned to begin in spring of 2027 with completion in fall of 2027.

1.1 Study Purpose and Objective

The objective of the study is to evaluate traffic operations under existing and proposed conditions. This evaluation was used to determine impacts of the development to the public roadway network to determine whether any mitigation is necessary. Both weekday morning (AM) and evening (PM) peak hour traffic volumes were analyzed.

1.2 Project Location

The development is located on the west side of Pleasant View Road. An off-site development, the Hill Valley residential development is located on the east side of Pleasant View Road. A project location map is provided in **Exhibit 1**.



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Project Location Map

2.0 Study Area

2.1 Study Area Roadways

The study area includes the following roadways. Descriptions apply to the segment of each roadway within the study area and not necessarily to the entire roadway.

S Pleasant View Road

- Principal arterial
- Six-lane urban divided south of Valley View Road
- Four-lane urban divided north of Valley View Road
- Oriented south to north
- Posted speed limit of 40 miles per hour (mph)
- On-street bicycle lanes
- Sidewalk along the west side south of Prairie Hill Road and along both sides north of Prairie Hill Road
- Average Weekday Traffic (AWT): 20,250 vehicles per day (vpd)

Valley View Road

- Collector
- Two-lane urban divided
- Oriented east to west
- Posted speed limit of 30 mph
- On-street bicycle lanes
- Sidewalk along both sides
- AWT: 7,500 vpd

S Junction Road

- Principal arterial
- Four-lane urban divided
- Posted speed limit of 35 mph
- On-street bicycle lanes
- Sidewalk along east side, multi-use path along west side
- AWT: 19,350 vpd

2.2 Study Area Intersections

The study area roadways form the following study intersection:

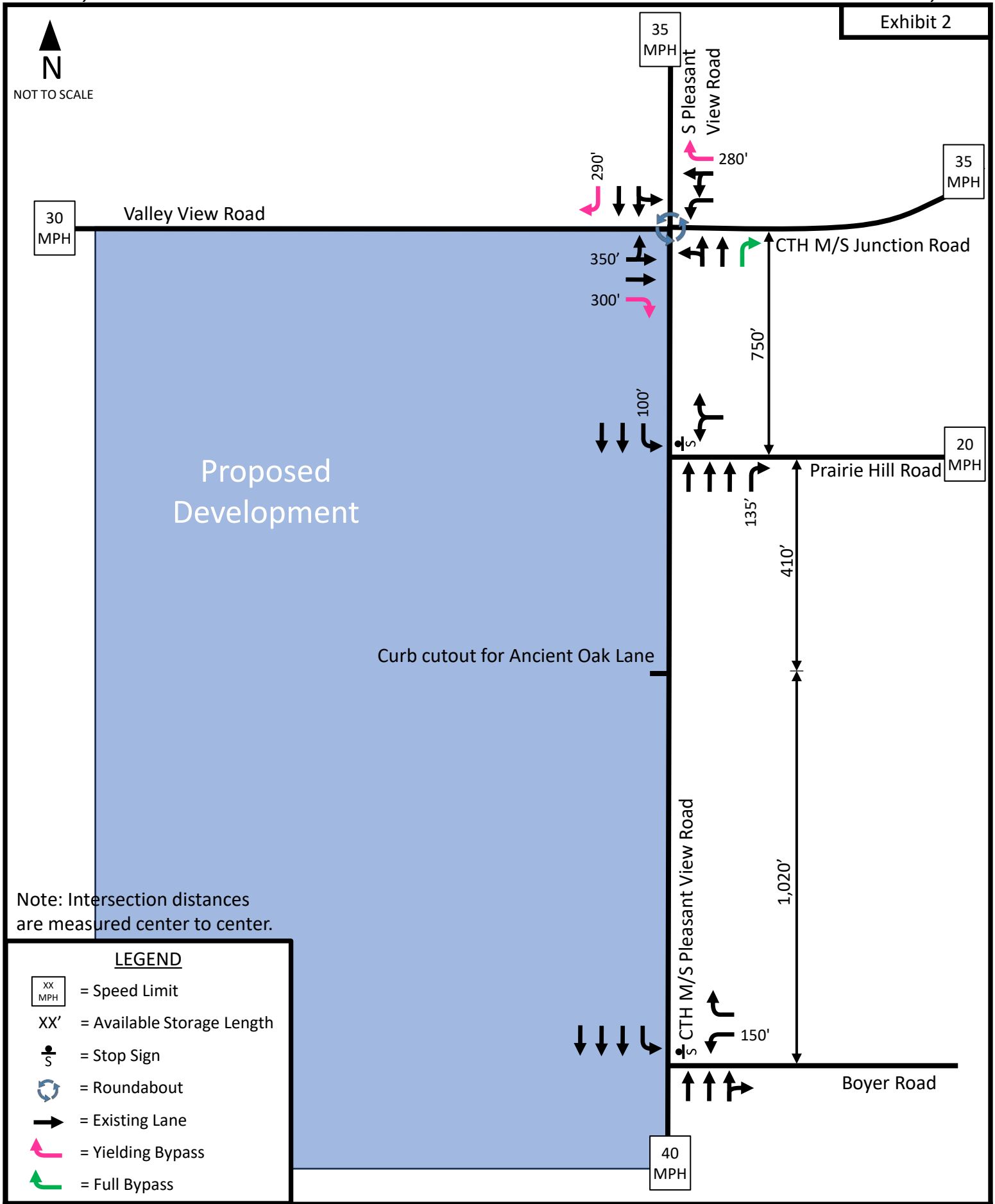
S Pleasant View Road with Valley View Road/CTH M/S Junction Road

- Roundabout
- South approach
    - One shared left/through lane
    - One through lane
    - One free-flow right-turn bypass lane
- North approach
    - One shared left/through lane
    - One through lane
    - One yielding right-turn bypass lane
- West approach
    - One shared left/through lane
    - One through lane
    - One yielding right-turn bypass lane

- East approach
    - One left-turn lane
    - One shared left/through lane
    - One yielding right-turn bypass lane

An overview of the existing transportation network is provided in **Exhibit 2**.

Exhibit 2



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Existing Transportation Network

3.0 Background Conditions

3.1 Existing Land Use

The development site is located to the west of S Pleasant View Road and south of Valley View Road. It is comprised of 9 parcels divided for sale as well as out lots for the purposes of conserving the natural character of the land and tree cover, and stormwater management. The land is currently undeveloped. Residential land uses surround the proposed development site to the west and south.

3.2 Existing Traffic Volumes

KL Engineering, Inc. completed turning movement counts at the study intersection during the week of March 2nd, 2026. Traffic counts were taken during the morning and evening peak periods. Detailed traffic count information is provided in **Appendix A**.

The network morning and evening peak traffic volume hours were found to be 7:30-8:30 am and 4:30-5:30 pm, respectively. Existing AM and PM peak hour traffic volumes based on the March 2026 counts are shown in **Exhibit 3**.

3.3 Existing Access Points

The site is currently undeveloped. There is one private access point on S Pleasant View Road. This access point will be removed with the development. Public roadway right of way is platted through the site and one of those platted roadways is stubbed out with turn lanes on S Pleasant View Road. That roadway stub is located approximately 1,150 feet south of Valley View Road. Two other public roadway connections are platted through the development property but have no improvements. One is located on S Pleasant View Road approximately 2,350 feet south of Valley View Road. The other is located on Valley View Road located approximately 700 feet west of S Pleasant View Road.

3.4 Existing Traffic Operations

The traffic analysis summarized in this document was completed using the software programs Synchro and HCS. Synchro software was used to implement the Highway Capacity Manual 7th Edition (HCM 7) traffic analysis methodologies to estimate delays and volume to capacity (v/c) ratios at the signalized and stop-controlled intersections. HCS was used to implement the HCM 7 methodologies at the roundabout intersection. Delays are used to assign a level of service (LOS) to each movement by assigning a letter grade between LOS A and LOS F based on the length of delay. LOS A represents low delays while LOS F represents significant congestion.

Construction is anticipated to be completed in 2027. Therefore 2027 was chosen as the base year for analysis. Existing year 2026 traffic volumes, roadway geometrics, and intersection control were used for the base year traffic analysis.

Table 1 summarizes the base year traffic operations at the study intersection during the AM and PM peak hours.

Table 1. Level of Service by Movement - Base Year 2027 Traffic Volumes

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	
		AM	LOS	C	B	C	B	B	A	A	A	A	B	B	A	A
			DELAY (sec)	16	15	18	14	11	5	8	9	0	11	11	4	
			V/C	0.45	0.46	0.46	0.54	0.45	0.01	0.37	0.41	0.00	0.38	0.40	0.04	
			Queue (ft)	60	60	60	85	60	<25	45	50	<25	45	50	<25	
		PM	LOS	B	A	B	B	A	A	A	A	A	B	B	A	A
			DELAY (sec)	10	10	13	12	10	4	5	6	0	14	14	5	
			V/C	0.20	0.21	0.31	0.54	0.46	0.00	0.23	0.25	0.00	0.45	0.47	0.11	
			Queue (ft)	<25	<25	35	85	60	<25	<25	25	<25	60	65	<25	

All traffic movements operate at LOS C or better under base year background conditions. Queue lengths at the study intersection are also summarized in **Exhibit 4**.

Existing operational analysis outputs are provided in **Appendix B**.

3.5 Projected Traffic

The development is anticipated to begin construction in spring 2027 with completion of the public improvements in 2027. This is considered the base year for traffic analysis. Buildout and occupancy of all lots in the development is anticipated by 2032. Therefore 2032 was selected as an interim year. A 10-year horizon was chosen for the future year to assess whether traffic operations and any proposed mitigation continue to operate efficiently in the future. Therefore, 2042 was selected as the horizon year.

To estimate traffic operations in horizon year scenarios, existing traffic counts were inflated to account for background traffic growth. A growth rate of 0.5% per year was identified based on historical traffic count data and engineering judgement. This growth rate is likely a conservative estimate of future traffic growth given the built out nature of the corridor, continued efforts to improve transit service in the City and the greater Madison area, and historical traffic count data.

An alternative growth rate was identified by the Dane County Highway Department for background traffic growth. This rate was based on a study completed by the Regional Data Group that projected a 16.5% population growth rate per decade for Dane County. This growth rate is based on historical population growth, job growth, and housing throughout the County. That growth rate equates to a 1.2% annual growth rate that was applied to existing volumes for future year scenarios using this alternative growth rate.

While the 1.2% annual growth rate was included at the request of the Dane County Highway Department, the 0.5% annual growth rate scenarios are also summarized in this report. This is based on further research showing that historical population growth between the year 2005 and 2025 did not result in identical growth in traffic along S Pleasant View Road. **Table 2** summarizes the historical volumes on S Pleasant view Road compared to the County population.

Table 2. S Pleasant View Rd Historical Traffic Data

	Year			Growth Rate	
	2005	2006	2025	2005-2025	2006-2025
Annual Average Daily Traffic (AADT)	20,600	19,700	21,200	0.14%	0.39%
Dane County Population	462,184	468,596	590,375	1.23%	1.22%

The Dane County population grew by 1.2% annually between 2005 and 2025. The volumes on S Pleasant View Road increased less than 0.5% annually during that same time period. Based on this, a background traffic growth rate of 0.5% is plausible.

The 0.5% and 1.2% annual growth rates were applied to S Pleasant View Road, Valley View Road, and CTH M/S Junction Road volumes to estimate background traffic volumes during the years 2032 and 2042. Traffic volumes were balanced along the study corridors as appropriate to maintain a balanced traffic volume set. Interim year 2032 background traffic volumes and horizon year 2042 background traffic volumes are summarized in **Exhibit 5, Exhibit 6, Exhibit 7, and Exhibit 8**, respectively.

3.6 Year 2032 Background Traffic – 0.5% Growth Rate

Interim year 2032 background traffic volumes with a 0.5% annual growth rate, existing roadway geometrics, and existing intersection control were used to estimate interim year background traffic operations.

Table 3 summarizes the interim year background traffic operations at the study intersections during the AM and PM peak hours.

Table 3. Level of Service by Movement – Year 2032 Background Traffic Volumes – 0.5% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	
		AM	LOS	C	C	C	C	B	A	A	A	A	B	B	A	A
			DELAY (sec)	17	16	19	15	12	5	9	9	0	12	12	4	
			V/C	0.47	0.48	0.49	0.57	0.48	0.01	0.39	0.42	0.00	0.40	0.42	0.04	
			Queue (ft)	65	65	65	90	65	<25	50	55	<25	50	55	<25	
		PM	LOS	B	A	B	B	B	A	A	A	A	C	B	A	A
			DELAY (sec)	11	10	14	13	11	4	5	6	0	15	15	5	
			V/C	0.21	0.22	0.33	0.56	0.47	0.00	0.24	0.26	0.00	0.48	0.49	0.12	
			Queue (ft)	<25	<25	35	90	65	<25	<25	30	<25	65	70	<25	

All movements are anticipated to operate at LOS C or better under the Year 2032 background traffic – 0.5% growth rate volume scenario. Estimated queue lengths at study intersections under Year 2032 background conditions are summarized in **Exhibit 9**.

Year 2032 background traffic operational analysis outputs are provided in **Appendix C**.

3.7 Year 2032 Background Traffic – 1.2% Growth Rate

Interim year 2032 background traffic volumes with a 1.2% annual growth rate, existing roadway geometrics, and existing intersection control were used to estimate interim year background traffic operations.

Table 4 summarizes the interim year background traffic operations at the study intersections during the AM and PM peak hours.

Table 4. Level of Service by Movement – Year 2032 Background Traffic Volumes – 1.2% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	
		AM	LOS	C	C	C	C	B	A	A	A	A	B	B	A	B
			DELAY (sec)	19	18	22	17	13	5	9	10	0	13	13	4	
			V/C	0.52	0.53	0.54	0.61	0.51	0.01	0.42	0.45	0.00	0.43	0.45	0.04	
			Queue (ft)	75	75	80	105	75	<25	55	60	<25	55	60	<25	
		PM	LOS	B	B	C	B	B	A	A	A	A	C	C	A	A
			DELAY (sec)	12	11	15	14	11	4	6	6	0	17	16	6	
			V/C	0.23	0.23	0.35	0.60	0.50	0.00	0.25	0.27	0.00	0.52	0.53	0.12	
			Queue (ft)	<25	<25	40	100	75	<25	25	30	<25	75	80	<25	

All movements are anticipated to operate at LOS C or better under the Year 2032 background traffic – 1.2% growth rate volume scenario. Estimated queue lengths at study intersections under Year 2032 background conditions are summarized in **Exhibit 10**.

Year 2032 background traffic operational analysis outputs are provided in **Appendix C**.

3.8 Year 2042 Background Traffic – 0.5% Growth Rate

Horizon year 2042 background traffic volumes with a 0.5% annual growth rate, existing roadway geometrics, existing intersection control, and current signal timings were used to estimate horizon year background traffic operations.

Table 5 summarizes the horizon year background traffic operations at the study intersections during the AM and PM peak hours.

Table 5. Level of Service by Movement - Year 2042 Background Traffic Volumes – 0.5% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	B
		AM	LOS	C	C	C	C	B	A	A	A	A	B	B	A	
			DELAY (sec)	19	18	22	17	13	5	9	10	0	13	13	4	
			V/C	0.52	0.53	0.55	0.62	0.52	0.01	0.42	0.45	0.00	0.44	0.46	0.04	
			Queue (ft)	75	80	80	110	75	<25	55	60	<25	60	60	<25	
		PM	LOS	B	B	C	B	B	A	A	A	A	C	C	A	A
			DELAY (sec)	12	11	16	15	12	4	6	6	0	18	17	6	
			V/C	0.23	0.24	0.36	0.61	0.51	0.00	0.25	0.28	0.00	0.53	0.54	0.12	
			Queue (ft)	<25	<25	40	105	75	<25	25	30	<25	75	80	<25	

Traffic movements are anticipated to remain largely unchanged from the Year 2032 background traffic – 0.5% growth rate volume scenario. All movements are anticipated to operate at LOS C or better. Estimated queue lengths at study intersections under Year 2042 background conditions are summarized in **Exhibit 11**.

Year 2042 background traffic operational analysis outputs are provided in **Appendix C**.

3.9 Year 2042 Background Traffic – 1.2% Growth Rate

Horizon year 2042 background traffic volumes with a 1.2% annual growth rate, existing roadway geometrics, existing intersection control, and current signal timings were used to estimate horizon year background traffic operations.

Table 6 summarizes the horizon year background traffic operations at the study intersections during the AM and PM peak hours.

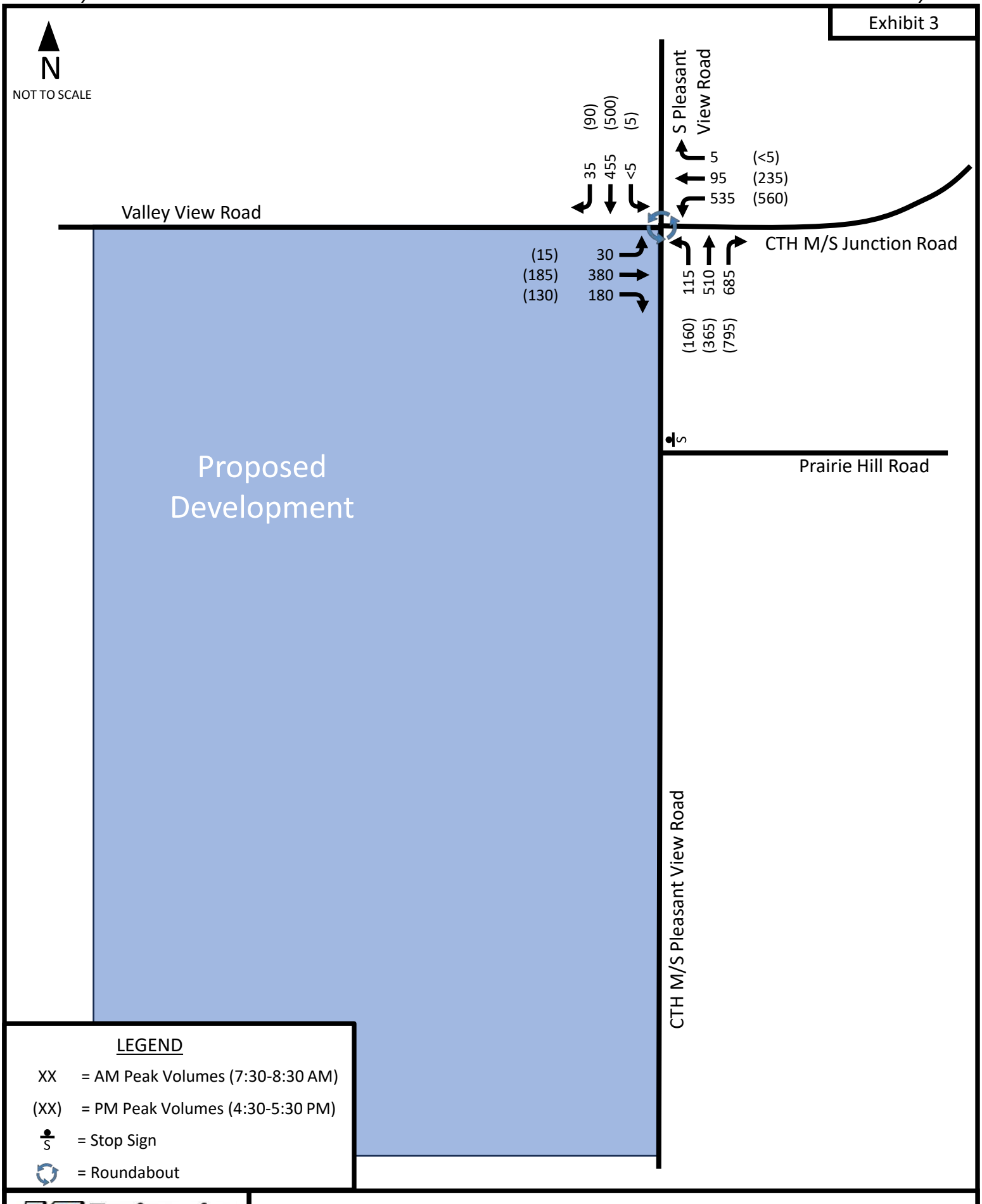
Table 6. Level of Service by Movement - Year 2042 Background Traffic Volumes – 1.2% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	C
		AM	LOS	D	D	E	D	C	A	B	B	A	C	C	A	
			DELAY (sec)	30	27	36	27	18	6	11	12	0	17	17	4	
			V/C	0.67	0.67	0.71	0.76	0.63	0.01	0.49	0.53	0.00	0.54	0.56	0.05	
			Queue (ft)	120	125	130	175	110	<25	70	80	<25	80	90	<25	
		PM	LOS	B	B	C	C	B	A	A	A	A	D	C	A	B
			DELAY (sec)	15	13	21	21	15	5	6	6	0	26	25	6	
			V/C	0.30	0.31	0.45	0.73	0.61	0.00	0.29	0.32	0.00	0.67	0.68	0.15	
			Queue (ft)	35	35	60	160	105	<25	30	35	<25	120	125	<25	

Traffic movements are anticipated to remain somewhat unchanged from the Year 2032 background traffic – 1.2% growth rate volume scenario. All movements are anticipated to operate at LOS D or better, with the exception of the eastbound right-turn movement. This movement is anticipated to operate at LOS E during the AM peak hour. Queues for this movement are anticipated to remain within lane storage. Estimated queue lengths at study intersections under Year 2042 background conditions are summarized in **Exhibit 12**.

Year 2042 background traffic operational analysis outputs are provided in **Appendix C**.

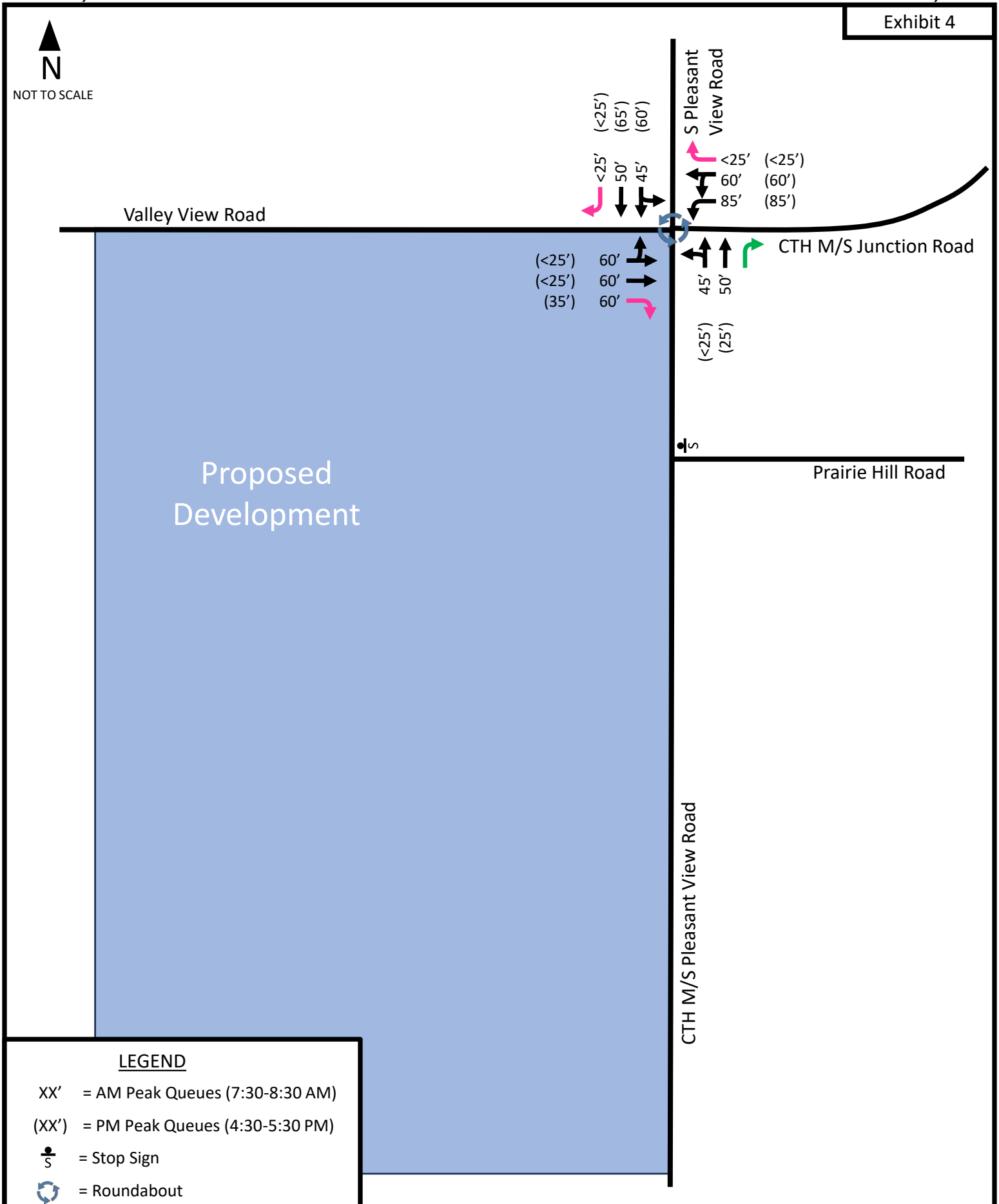
Exhibit 3



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Existing Year 2026 Traffic Volumes

Exhibit 4



LEGEND

XX' = AM Peak Queues (7:30-8:30 AM)

(XX') = PM Peak Queues (4:30-5:30 PM)

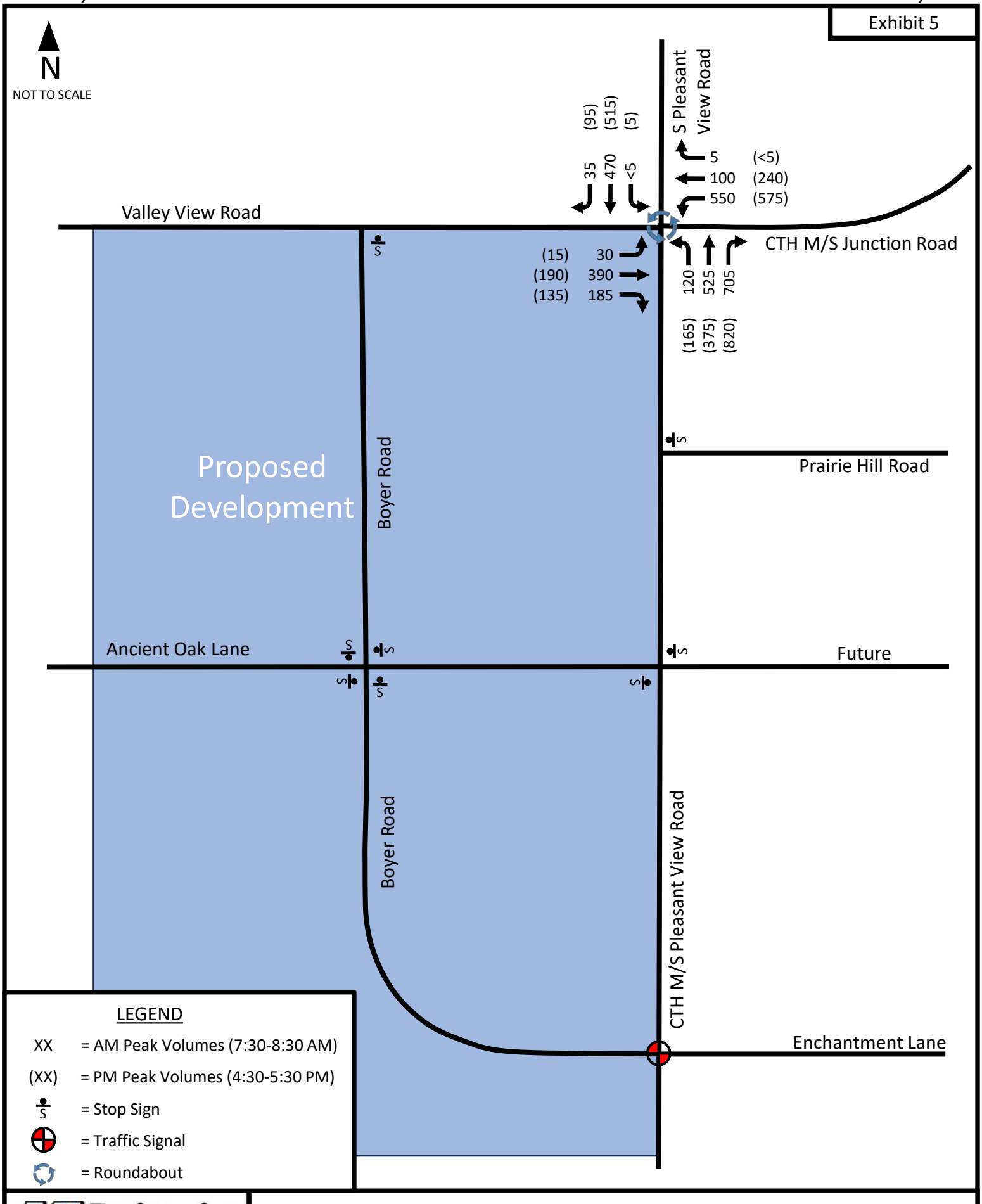
S = Stop Sign

= Roundabout

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Existing Year 2026 95th Percentile Queues

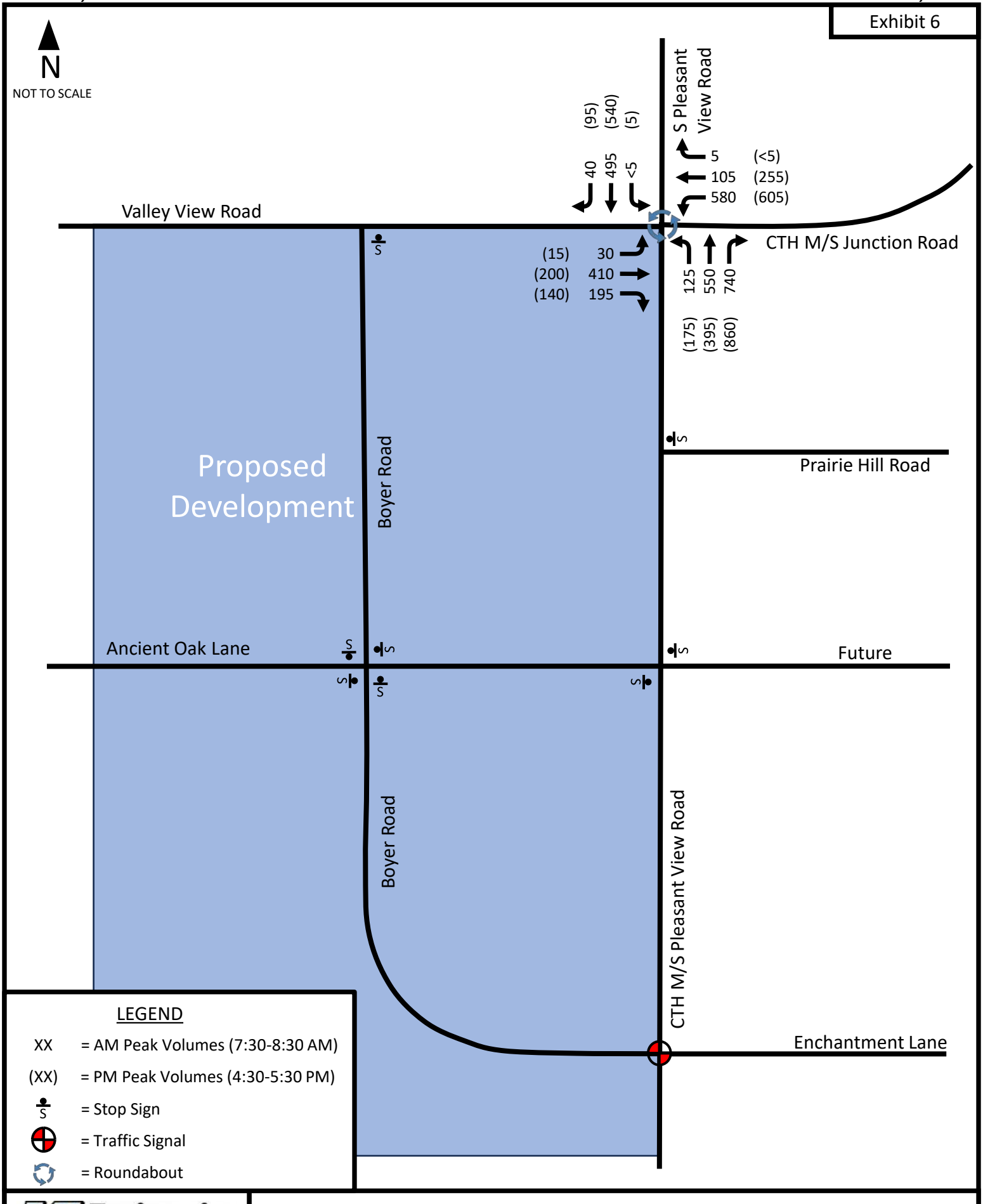
Exhibit 5



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Year 2032 Background Volumes (0.5% Growth Rate)

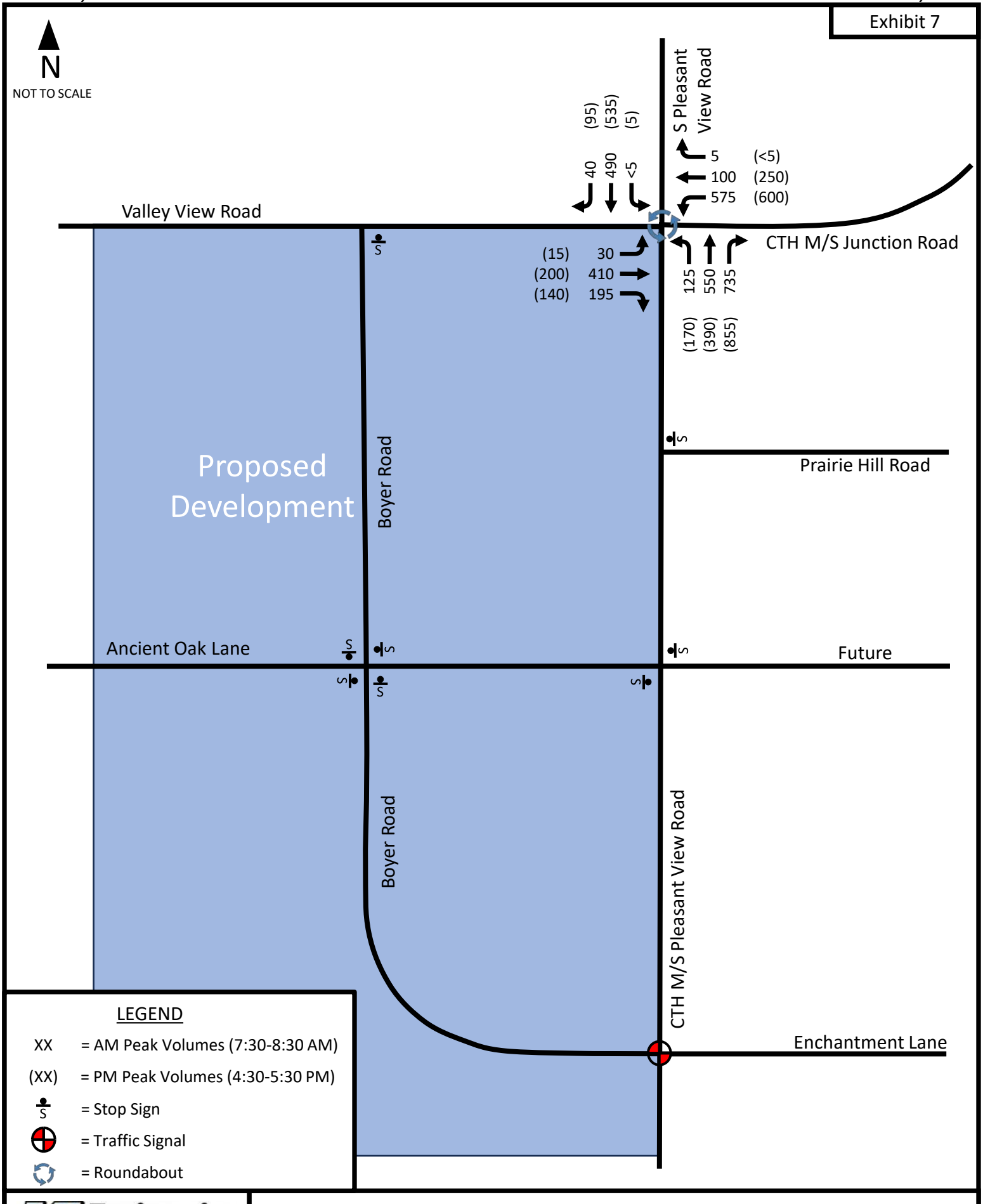
Exhibit 6



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Year 2042 Background Volumes (0.5% Growth Rate)

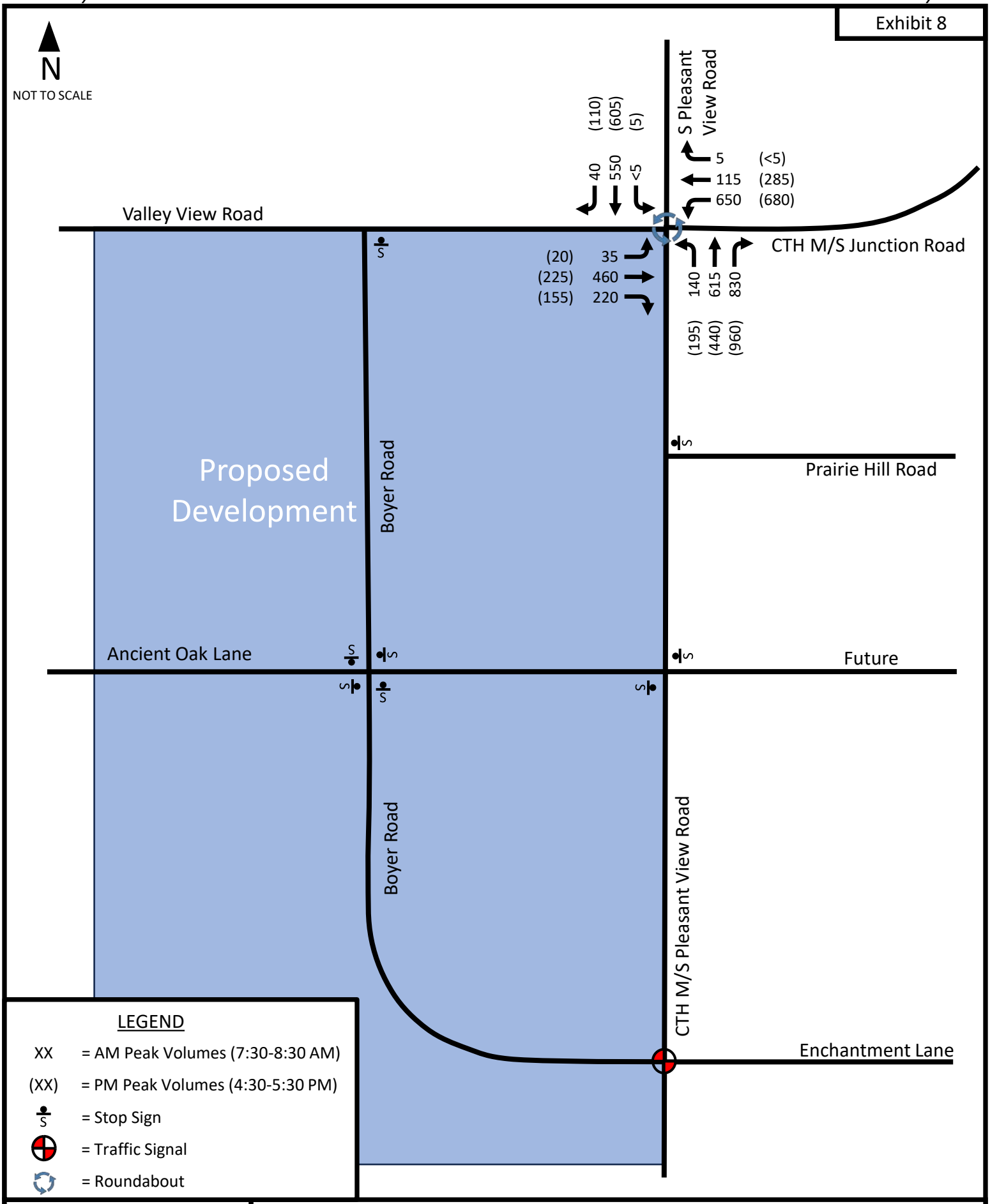
Exhibit 7



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Year 2032 Background Volumes (1.2% Growth Rate)

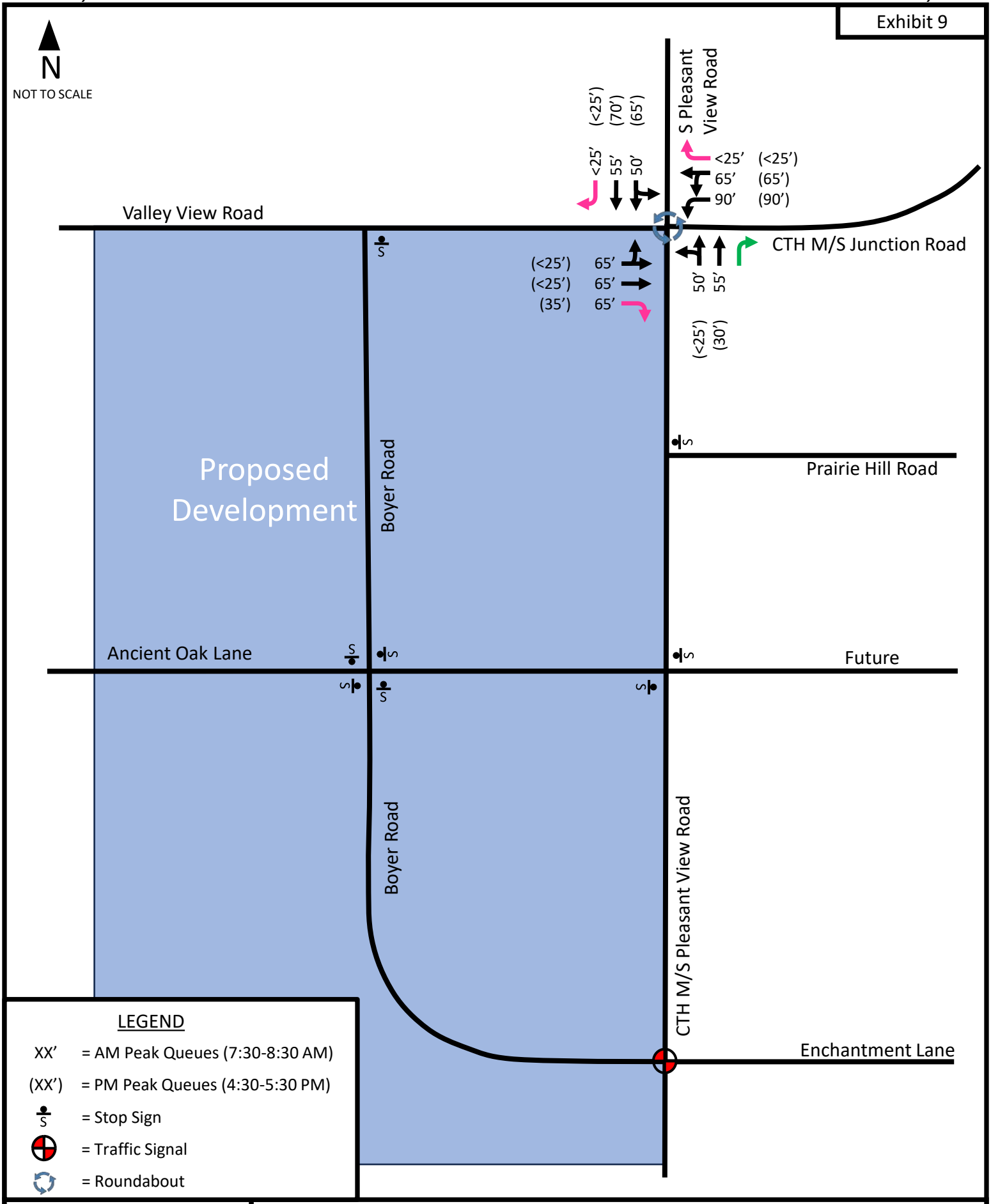
Exhibit 8



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Year 2042 Background Volumes (1.2% Growth Rate)

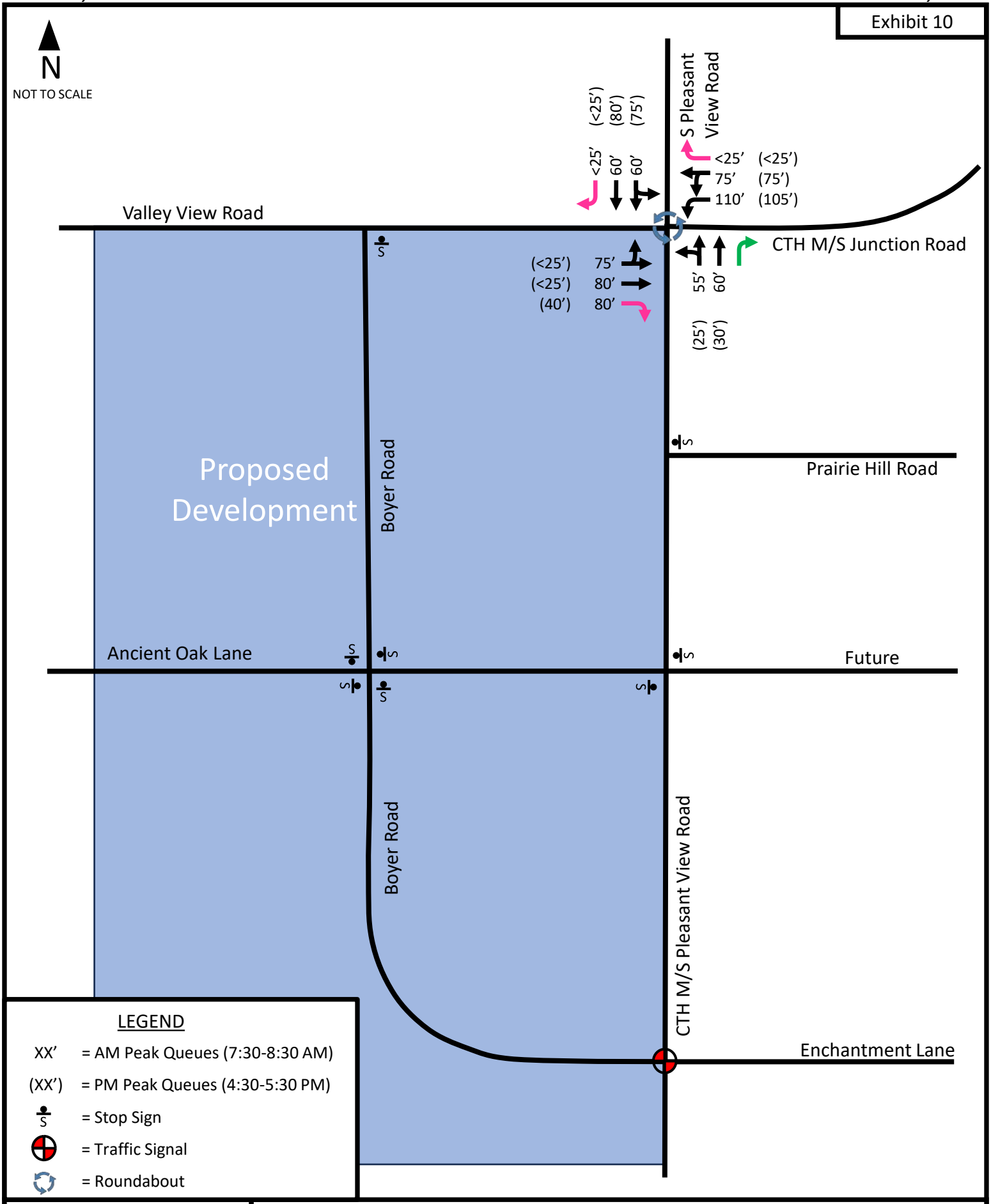
Exhibit 9



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Year 2032 Background 95th Percentile Queues (0.5% Growth Rate)

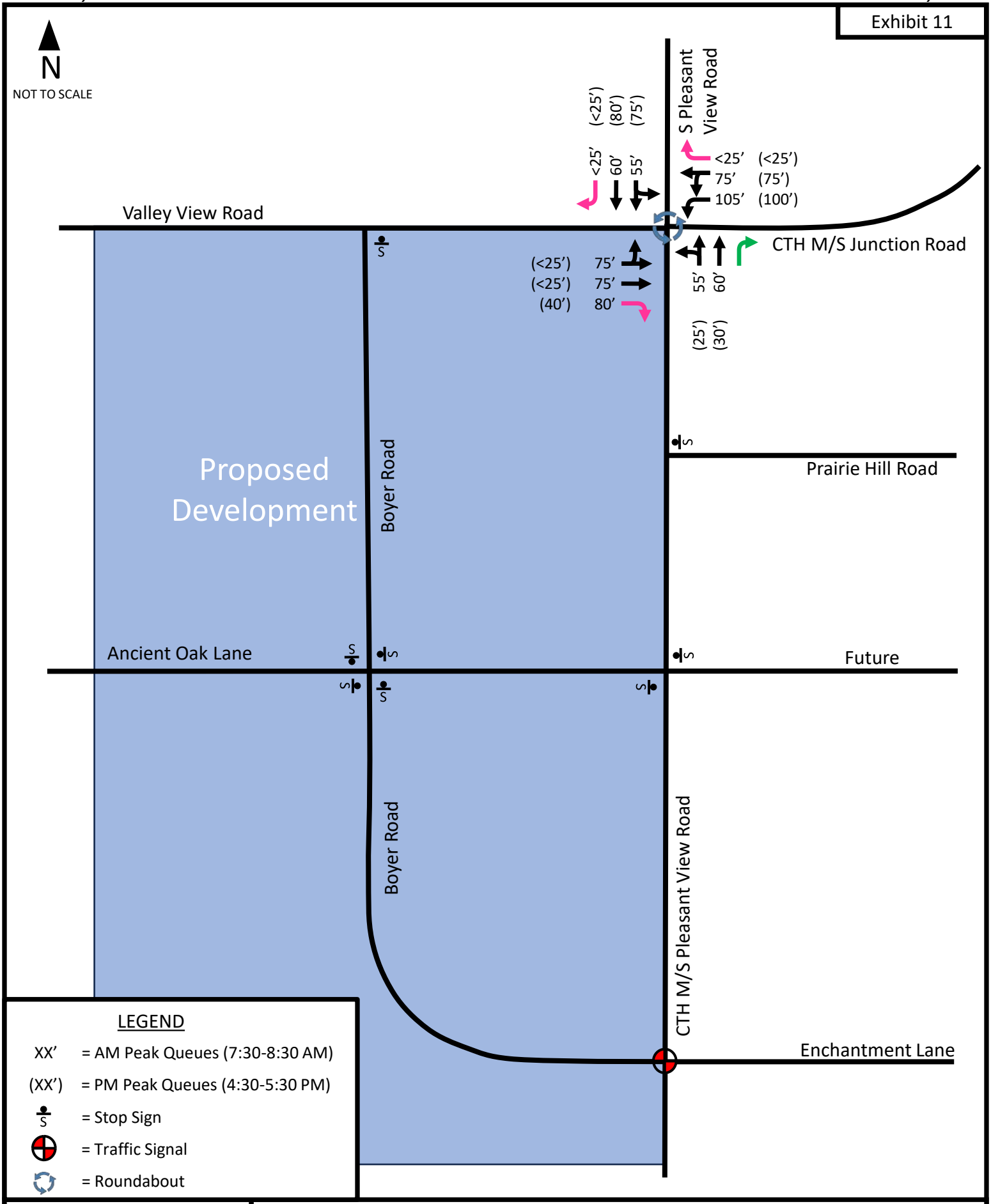
Exhibit 10



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Year 2042 Background 95th Percentile Queues (0.5% Growth Rate)

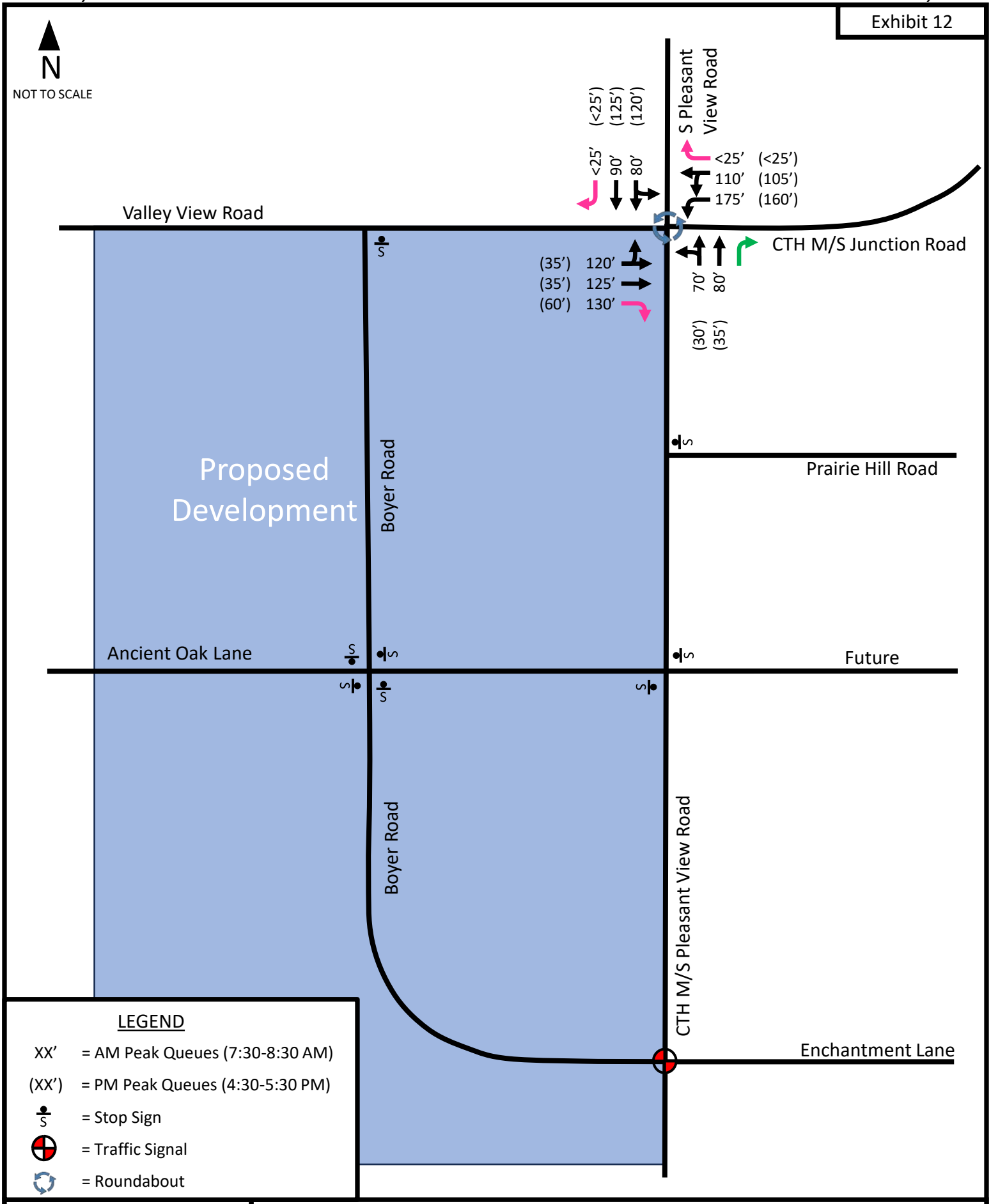
Exhibit 11



KL Engineering [A] Better Experience

Year 2032 Background 95th Percentile Queues (1.2% Growth Rate)

Exhibit 12



KL Engineering [A] Better Experience

Year 2042 Background 95th Percentile Queues (1.2% Growth Rate)

4.0 Proposed Development & Projected Traffic

4.1 Proposed Development

The University of Wisconsin Research Park is proposing a development in the southwest quadrant of the intersection of S Pleasant View Road with Valley View Road/CTH M/S Junction Road in Madison, Wisconsin. A project location map is provided in Exhibit 1.

The land is currently undeveloped. The development proposal includes constructing public improvements to facilitate development of private research and development facilities. That development is anticipated to consist of nine facilities used for the purposes of research and development, each approximately 100,000 square feet (sf) in size. A site plan is provided in **Exhibit 13**.

The site plan shows where Boyer Road and Ancient Oak Lane are platted through the development. The connections those roadways will form with Valley View Road and with S Pleasant View Road are the only proposed connections to existing roadways. All access to facilities in the development will be provided by Ancient Oak Lane and Boyer Road. Installation of a traffic signal at the intersection of S Pleasant View Road with Boyer Road is anticipated to be required in 2032 based on traffic volumes at the intersection. The intersection of Ancient Oak Lane with Boyer Road was not analyzed with the study to determine appropriate intersection control. However, the City of Madison Traffic Engineering department has indicated this intersection should be constructed with all-way stop control.

The roadway improvements proposed with the development are summarized in **Exhibit 14**.

It should be noted that the geometric roadway improvements are recommended with the initial buildout of the development. The traffic signal at the intersection of S Pleasant View Road with Boyer Road is roughly anticipated to be required by the year 2032. It is recommended that the developer and the City of Madison monitor the intersection as volumes increase to determine a more definite timeline for signal installation.

4.2 On-Site and Off-Site Trip Generation

To address traffic impacts related to the development, it is necessary to identify traffic generated by the proposed on-site and off-site developments. The expected traffic volumes generated by the proposed developments are based on the size and type of proposed land uses.

On-Site Trip Generation

Trips were generated for the proposed development using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition.* The estimate for trip generation was based on the approximate square footage for the proposed buildings. Trip generation assumptions used for the development, including the proposed ITE land use code (LUC) area, are detailed as follows:

- ITE LUC 760: Research and Development Facility – 225 thousand square feet (ksf)
- ITE LUC 770: Business Park – 225 ksf
- ITE LUC 140: Manufacturing – 450 ksf

Trip generation rates for the adjacent roadway peak hours were used for the AM and PM peak hours. A trip represents one movement in or out of the development. Therefore, a visit by a patron to the site generates two trips, one in and one out. Trips remaining after reductions have been applied are called total new trips. These trips will increase traffic on the public roadway network outside of the study area.

A summary of the proposed trip generation for the on-site development is provided in **Table 7**.

Table 7. On-Site Development Trip Generation

ITE Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Peak			PM Peak		
				In (%)	Out (%)	Total (rate)	In (%)	Out (%)	Total (rate)
Research and Development Facility	760	225 1000 SF GFA	2,430 (10.80)*	185 (82%)	40 (18%)	225 (1.00)*	35 (16%)	180 (84%)	215 (0.96)*
Business Park	770	225 1000 SF GFA	2,800 (12.44)	125 (77%)	40 (23%)	165 (0.73)*	115 (28%)	295 (72%)	410 (1.82)*
Manufacturing	140	450 1000 SF GFA	1,900 (4.22)*	215 (75%)	70 (25%)	285 (0.63)*	110 (29%)	265 (71%)	375 (0.83)*
Total Generated Trips:			**7,130**	**525**	**150**	**675**	**260**	**740**	**1000**
Linked Trip Reduction (30%)			(2140)	(65)	(20)	(85)	(35)	(80)	(115)
Multimodal Reduction (5%)			(355)	(25)	(10)	(35)	(15)	(35)	(50)
Driveway Trips			4,635	435	120	555	210	625	835
Total New Trips:			**4,635**	**435**	**120**	**555**	**210**	**625**	**835**

* Fitted curve equation used. Effective rate shown.

Using the proposed trip generation methodology, the development is anticipated to generate 4,635 weekday daily new trips, with 555 new trips (435 in and 120 out) during the weekday morning peak hour and 835 new trips (210 in and 625 out) during the weekday evening peak hour.

On-Site Trip Distribution

Proposed trip distribution is based on existing traffic volumes, regional traffic patterns, and engineering judgement. The anticipated trip distributions for the on-site development are shown in **Exhibit 15** and summarized below:

- 10% to/from the north via S Pleasant View Road
- 35% to/from the south via S Pleasant View Road
- 45% to/from the east via CTH M/S Junction Road
- 10% to/from the west via Valley View Road

On-Site Trip Assignment

On-site trips were assigned to the roadway network with the proposed access changes as summarized in Exhibit 10**.** New trips were assigned to the roadway network according to the proposed trip distribution and are shown in **Exhibit 16**.

Off-Site Trip Generation

The Hill Valley development on the east side of S Pleasant View Road adjacent to the proposed development is currently being constructed. It is anticipated to be fully built out before 2042. This development will include single-family and multifamily housing and a day care center. A trip generation estimate for the Hill Valley development was completed by KL Engineering in 2024 and reviewed by the City of Madison.

Buildout assumptions for Hill Valley were made so that an appropriate number of trips were applied to each analysis year included with this study. By 2027, 25% of the development is assumed to be built; by 2032, 50% of the development is assumed to be built; and by 2042, 100% of the development is assumed to be built.

A summary of the trip generation for the Hill Valley development is provided in **Table 8**.

Table 8. Off-Site Development Trip Generation

ITE Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Peak In (%)	AM Peak Out (%)	AM Peak Total (rate)	PM Peak In (%)	PM Peak Out (%)	PM Peak Total (rate)
Single-Family Detached Housing	210	236 Dwelling Units	2,225 (9.43)*	40 (25%)	125 (75%)	165 (0.70)*	140 (63%)	85 (37%)	225 (0.95)*
Single-Family Detached Housing	210**	330 Dwelling Units	1,765 (5.35)**	20 (25%)	65 (75%)	85 (0.26)**	100 (63%)	55 (37%)	155 (0.47)**
Single-Family Attached Housing	215	240 Dwelling Units	1,780 (7.42)*	30 (25%)	90 (75%)	120 (0.50)*	85 (59%)	55 (41%)	140 (0.58)*
Multifamily Housing (Mid-Rise)	221	690 Dwelling Units	3,135 (4.54)	60 (23%)	195 (77%)	255 (0.37)	165 (61%)	105 (39%)	270 (0.39)
Day Care Center	565	9.0 KSF GFA	430 (47.62)	55 (53%)	45 (47%)	100 (11.00)	45 (47%)	55 (53%)	100 (11.12)
Total Generated Trips:			**9,335**	**205**	**520**	**725**	**535**	**355**	**890**
Multimodal Reduction (5%)			(465)	(10)	(25)	(35)	(25)	(20)	(45)
25% Buildout New Trips:			**2,220**	**50**	**125**	**175**	**125**	**85**	**210**
50% Buildout New Trips:			**4,435**	**100**	**245**	**345**	**255**	**170**	**425**
100% Buildout New Trips			**8,870**	**195**	**495**	**690**	**510**	**335**	**845**

* Fitted curve equation used. Effective rate shown.

** Specialized land use rate used.

The Hill Valley development is anticipated to generate 8,870 weekday daily new trips upon full buildout, with 690 new trips (195 in and 495 out) during the weekday morning peak hour and 845 new trips (510 in and 335 out) during the weekday evening peak hour.

In 2027, the Hill Valley development is anticipated to generate 2,220 weekday daily trips, with 175 new trips (50 in and 125 out) during the weekday morning peak hour and 210 new trips (125 in and 85 out) during the weekday evening peak hour.

In 2032, the Hill Valley development is anticipated to generate 4,435 weekday daily trips, with 345 new trips (100 in and 245 out) during the weekday morning peak hour and 425 new trips (255 in and 170 out) during the weekday evening peak hour.

Off-Site Trip Distribution

The anticipated trip distribution for the off-site development is provided in **Exhibit 17** and summarized below:

- 5% to/from the north via S Pleasant View Road
- 30% to/from the south via S Pleasant View Road
- 15% to/from the east via CTH M/S Junction Road
- 5% to/from the west via Valley View Road
- 45% entering/exiting via access points outside of the study area

Off-Site Trip Assignment

Off-site trips were assigned to the roadway network for Years 2032 and 2042 according to the proposed trip distribution and are summarized in **Exhibit 18** and **Exhibit 19**.

4.3 Build Traffic

On-site development new trips (Exhibit 16) were added to the off-site 2032 development new trips (Exhibit 18) and interim year background traffic volumes to determine the 2032 build development traffic volumes. 2032 build

traffic volumes with a 0.5% annual growth rate are summarized in **Exhibit 20**: 2032 build traffic volumes with a 1.2% annual growth rate are summarized in **Exhibit 21**.

On-site development new trips (Exhibit 16) were added to the off-site 2042 development new trips (Exhibit 19) and 2042 background traffic volumes to determine the 2042 build development traffic volumes. 2042 build traffic volumes with a 0.5% annual growth rate are summarized in **Exhibit 22**; 2042 build traffic volumes with a 1.2% annual growth rate are summarized in **Exhibit 23**.

Exhibit 13

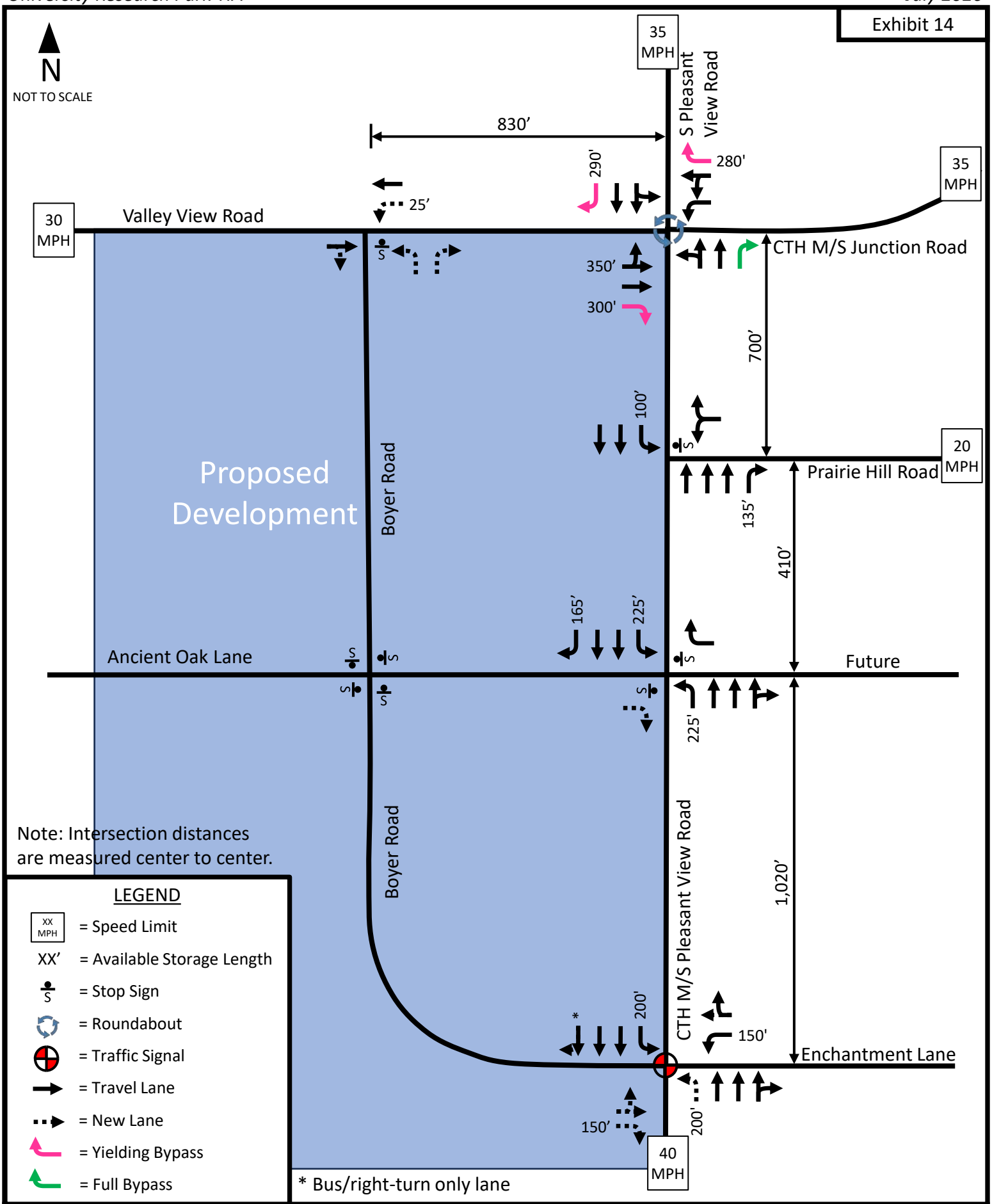
N

NOT TO SCALE



Site Plan

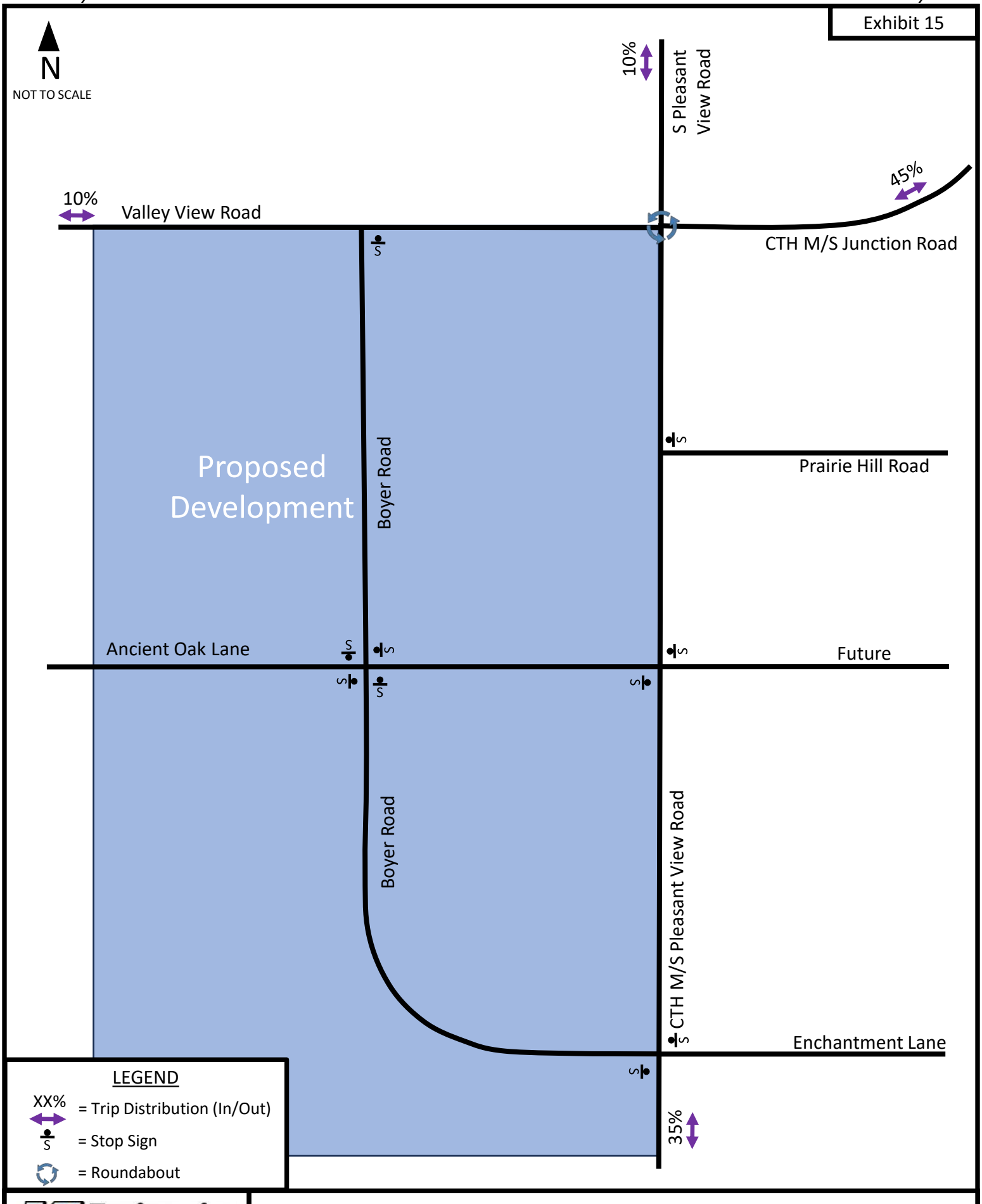
Exhibit 14



KL Engineering [A] Better Experience

Proposed Roadway Improvements

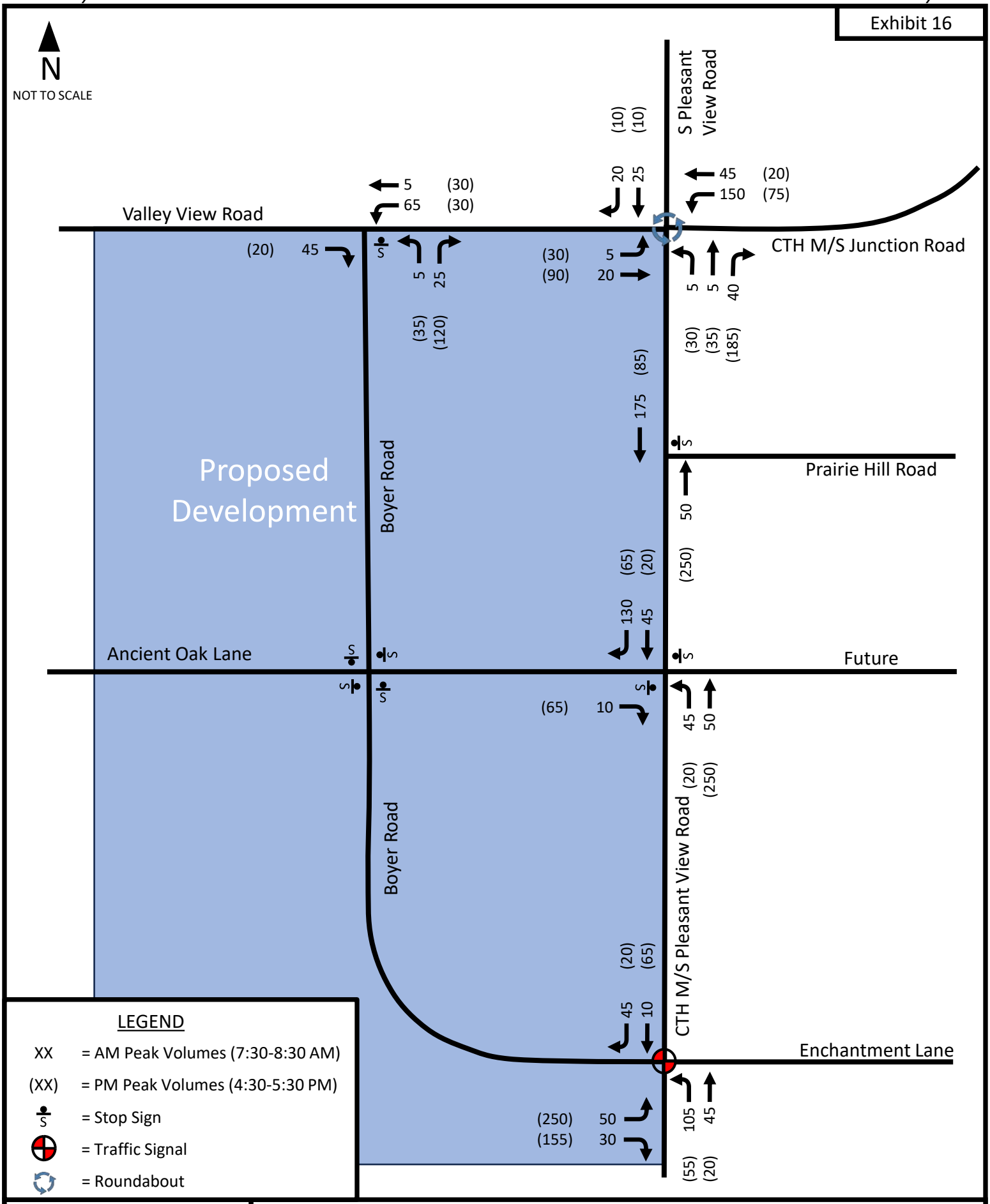
Exhibit 15



KL Engineering [A] Better Experience

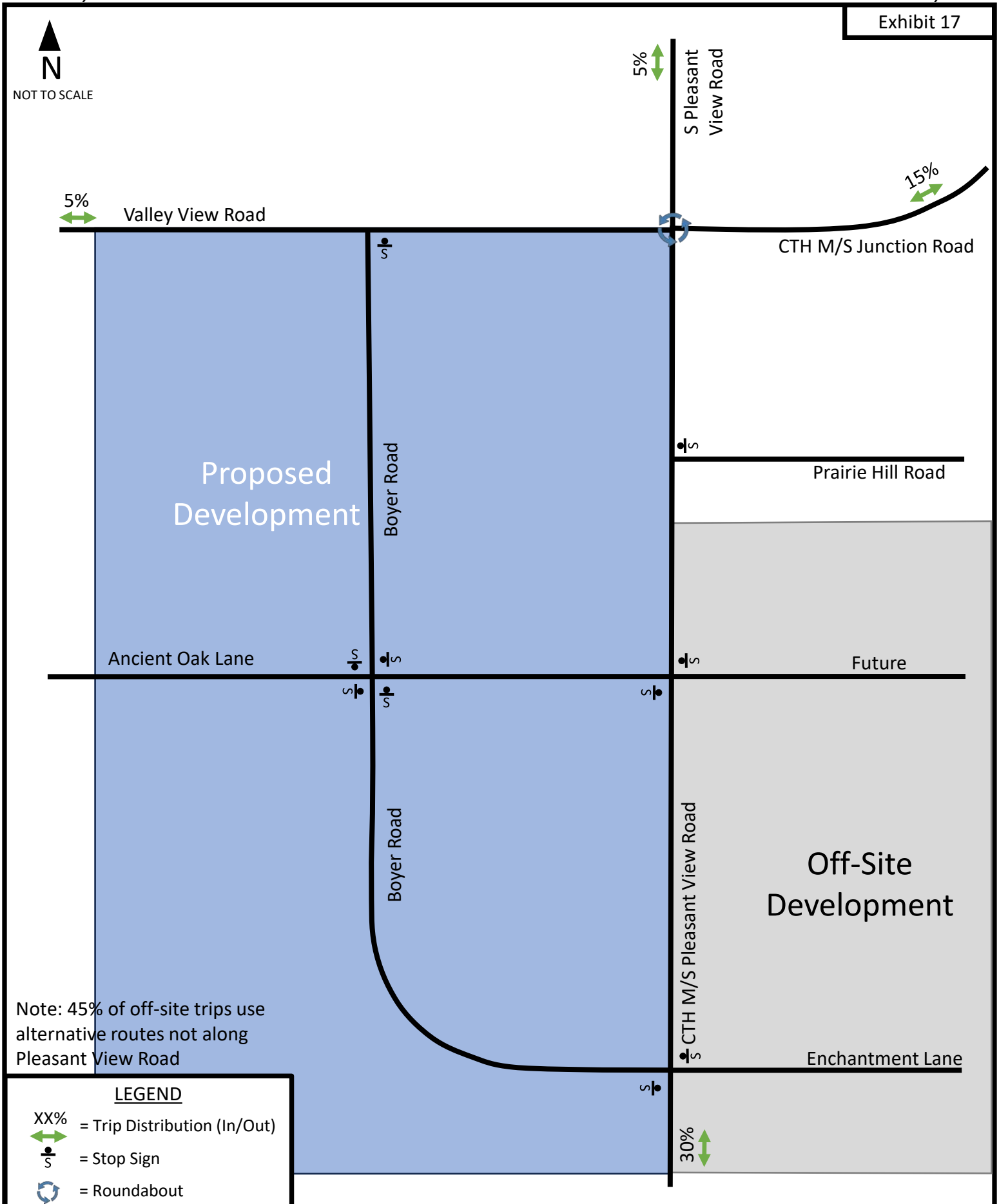
On-Site Trip Distribution

Exhibit 16



On-Site Trip Assignment

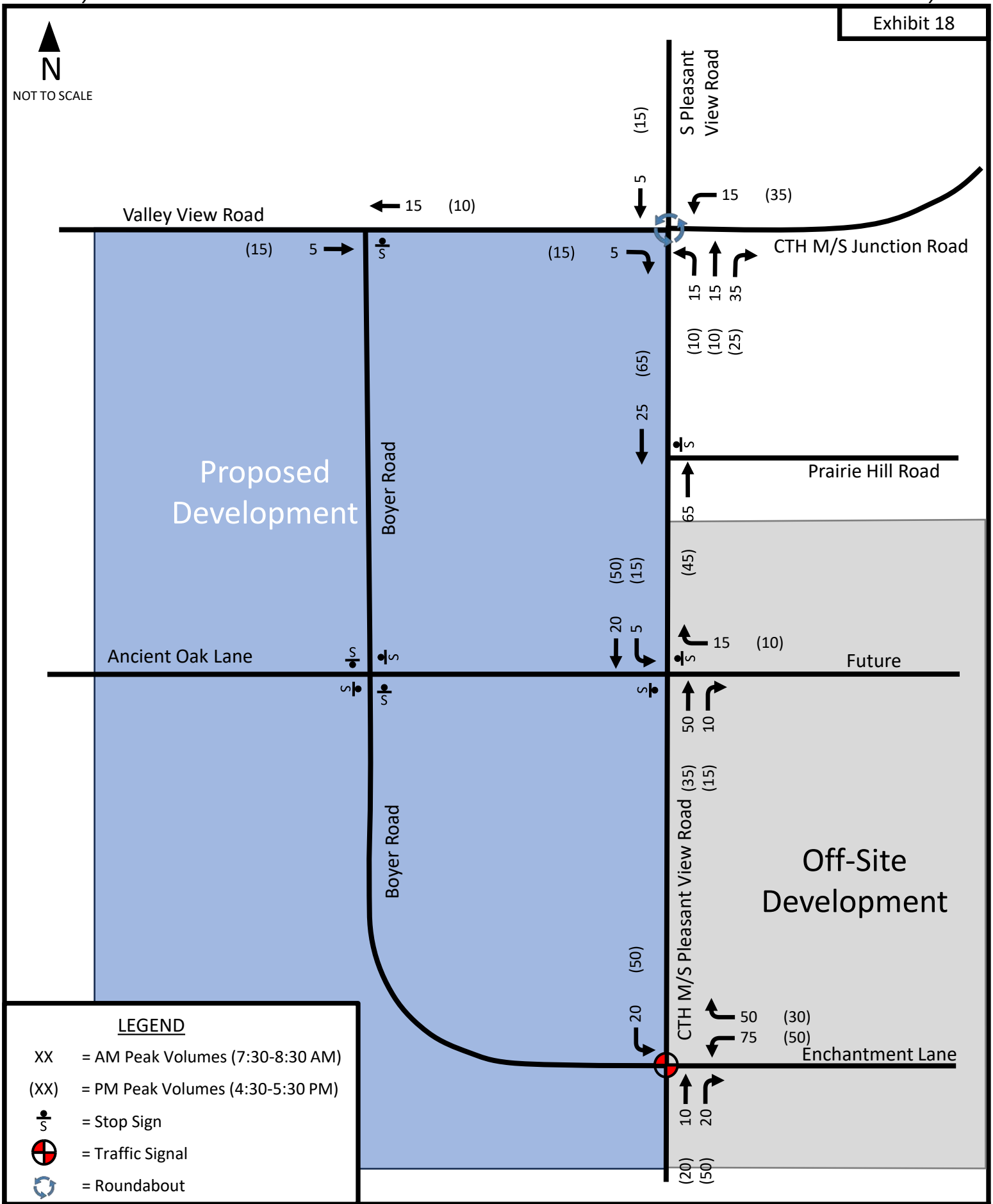
Exhibit 17



KL Engineering [A] Better Experience

Off-Site Trip Distribution

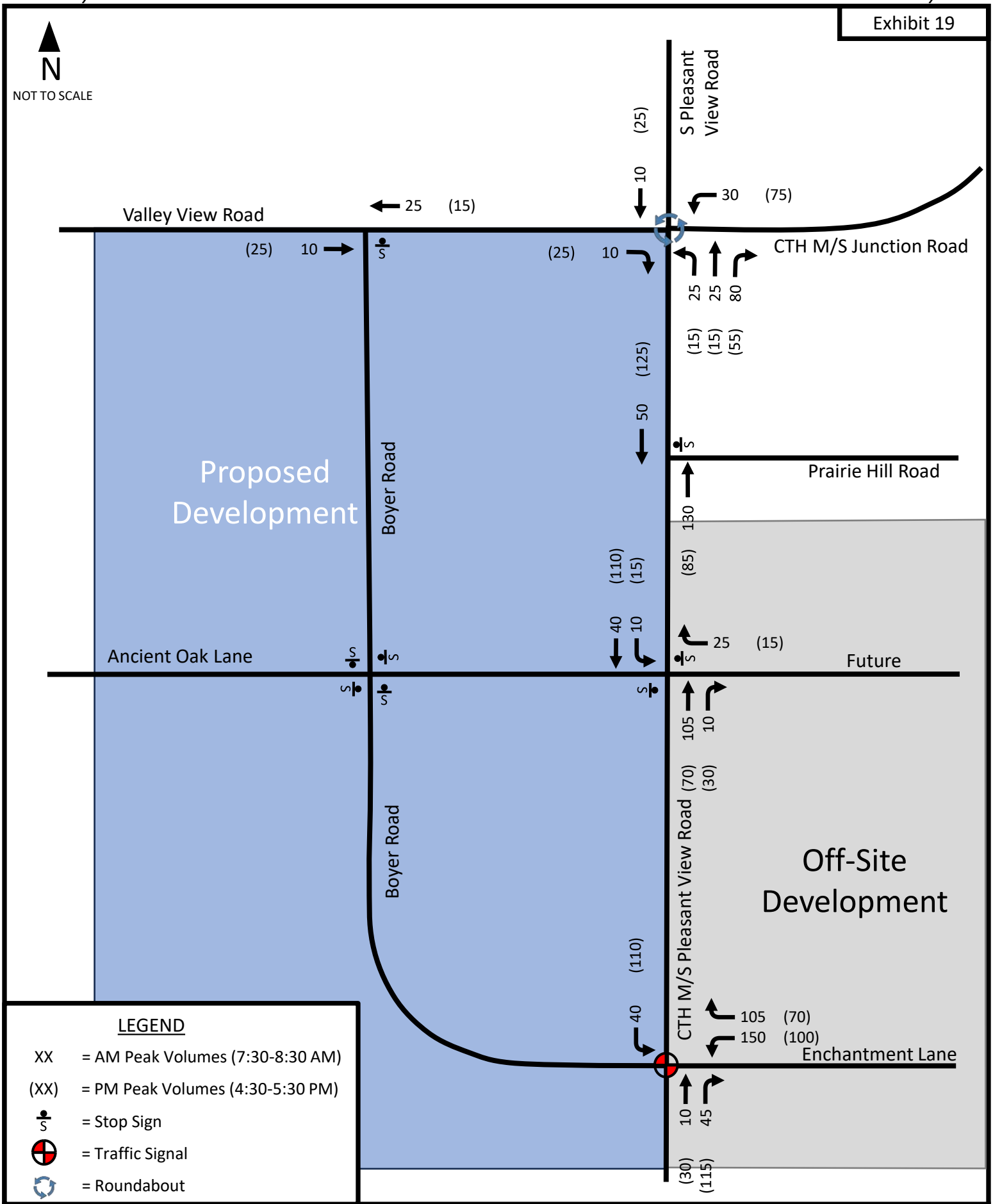
Exhibit 18



KL Engineering [A] Better Experience

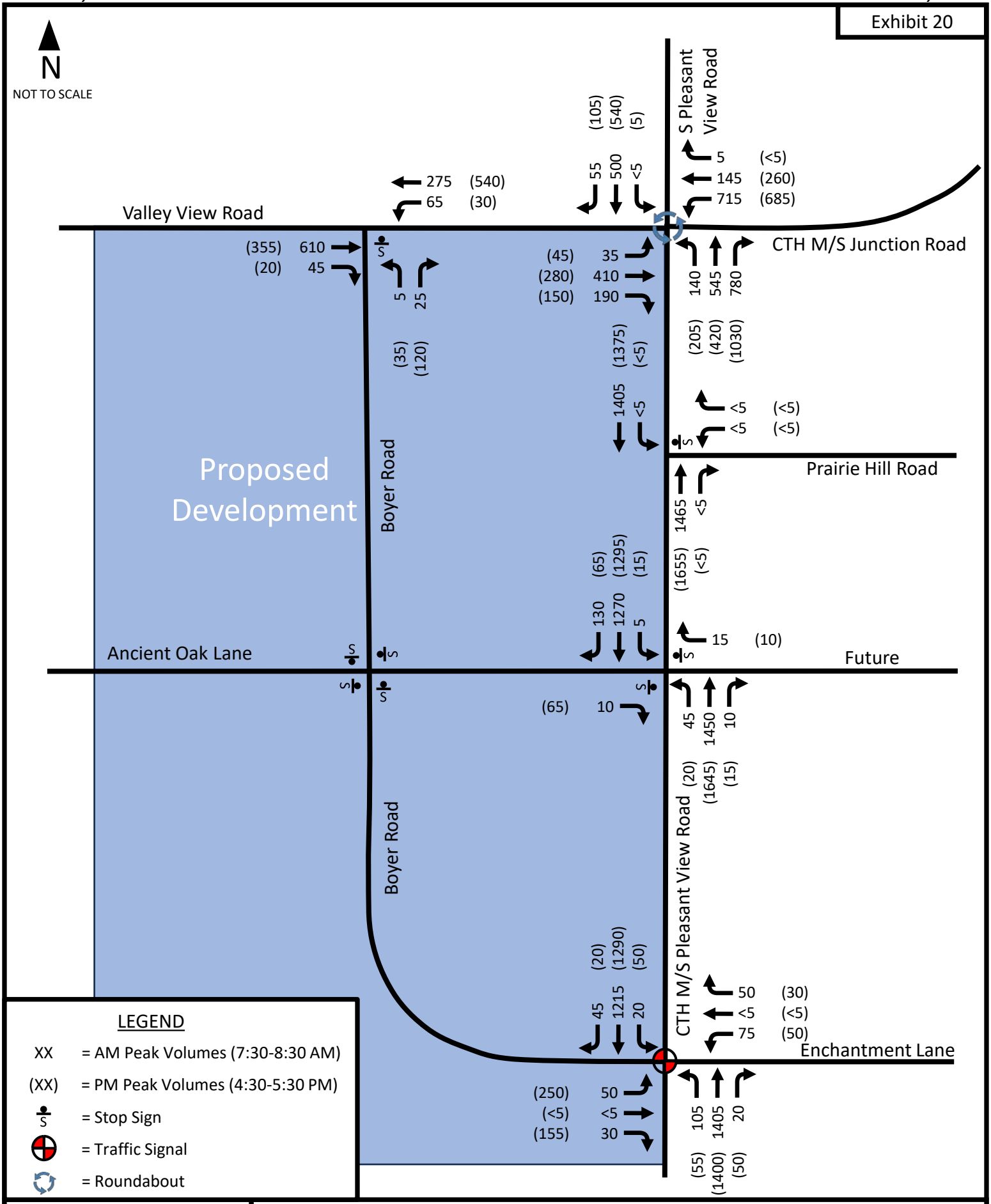
Year 2032 Off-Site Trip Assignment

Exhibit 19



Year 2042 Off-Site Trip Assignment

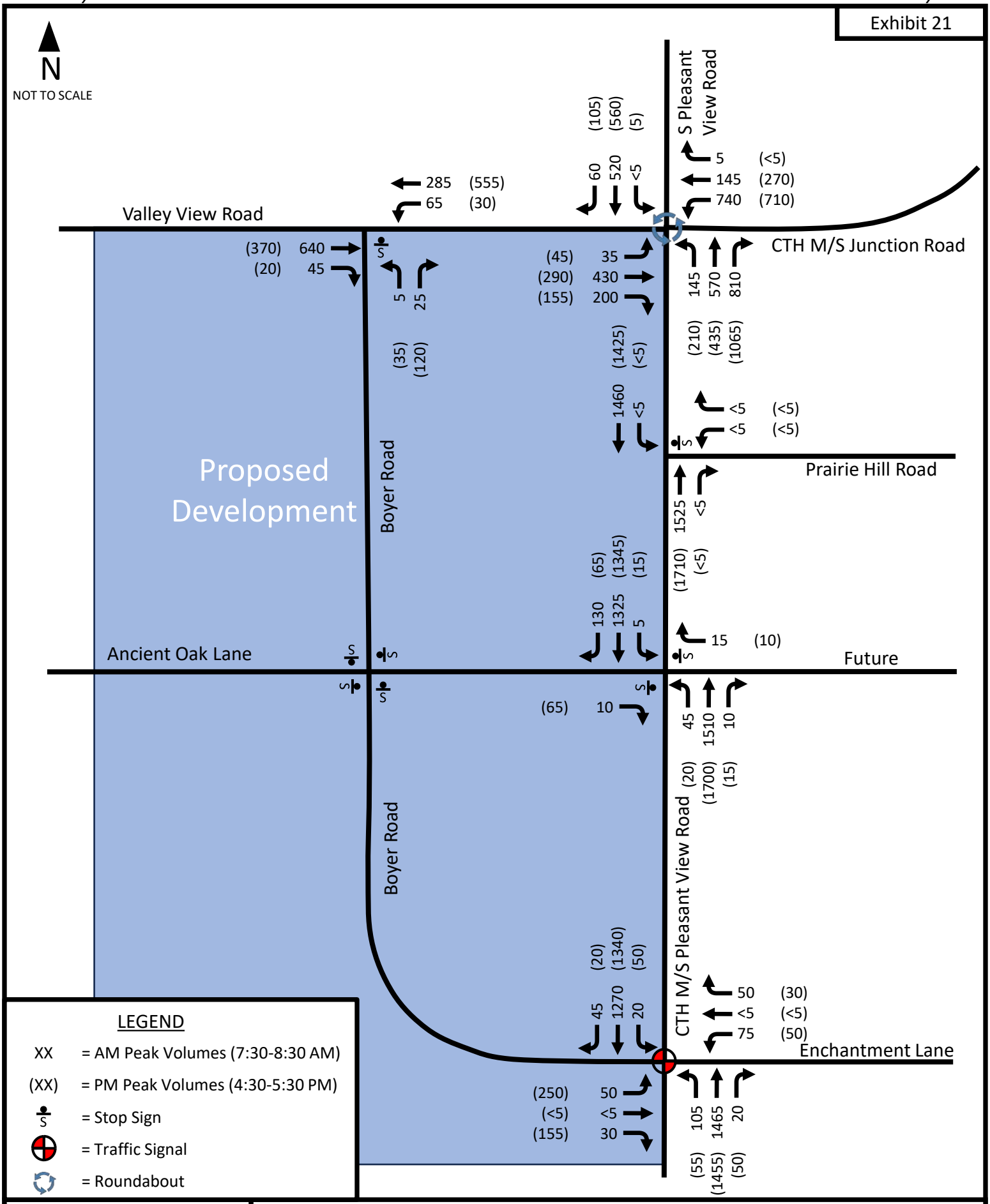
Exhibit 20



KL Engineering [A] Better Experience

Year 2032 Build Traffic Volumes (0.5% Growth Rate)

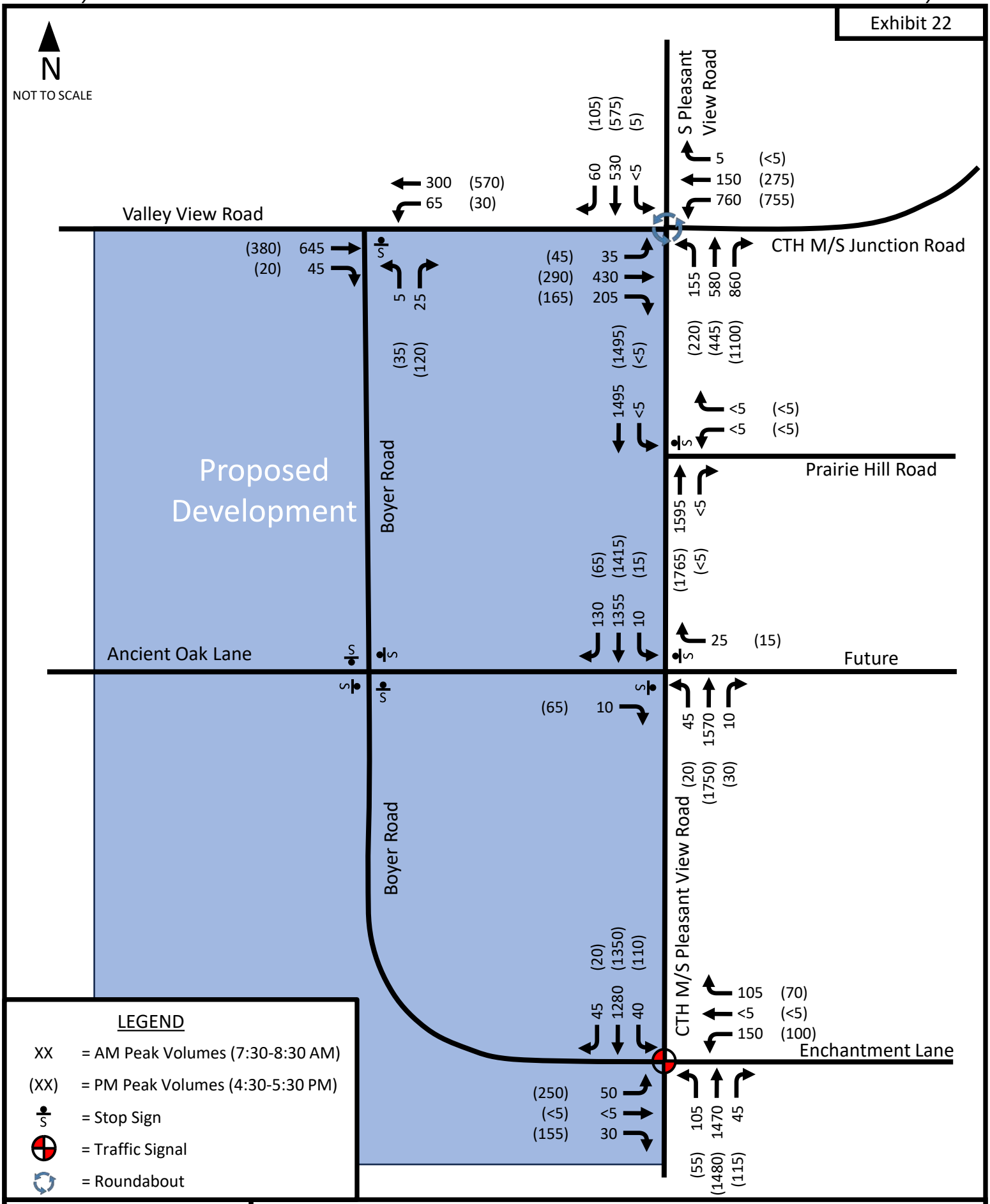
Exhibit 21



KL Engineering [A] Better Experience

Year 2032 Build Traffic Volumes (1.2% Growth Rate)

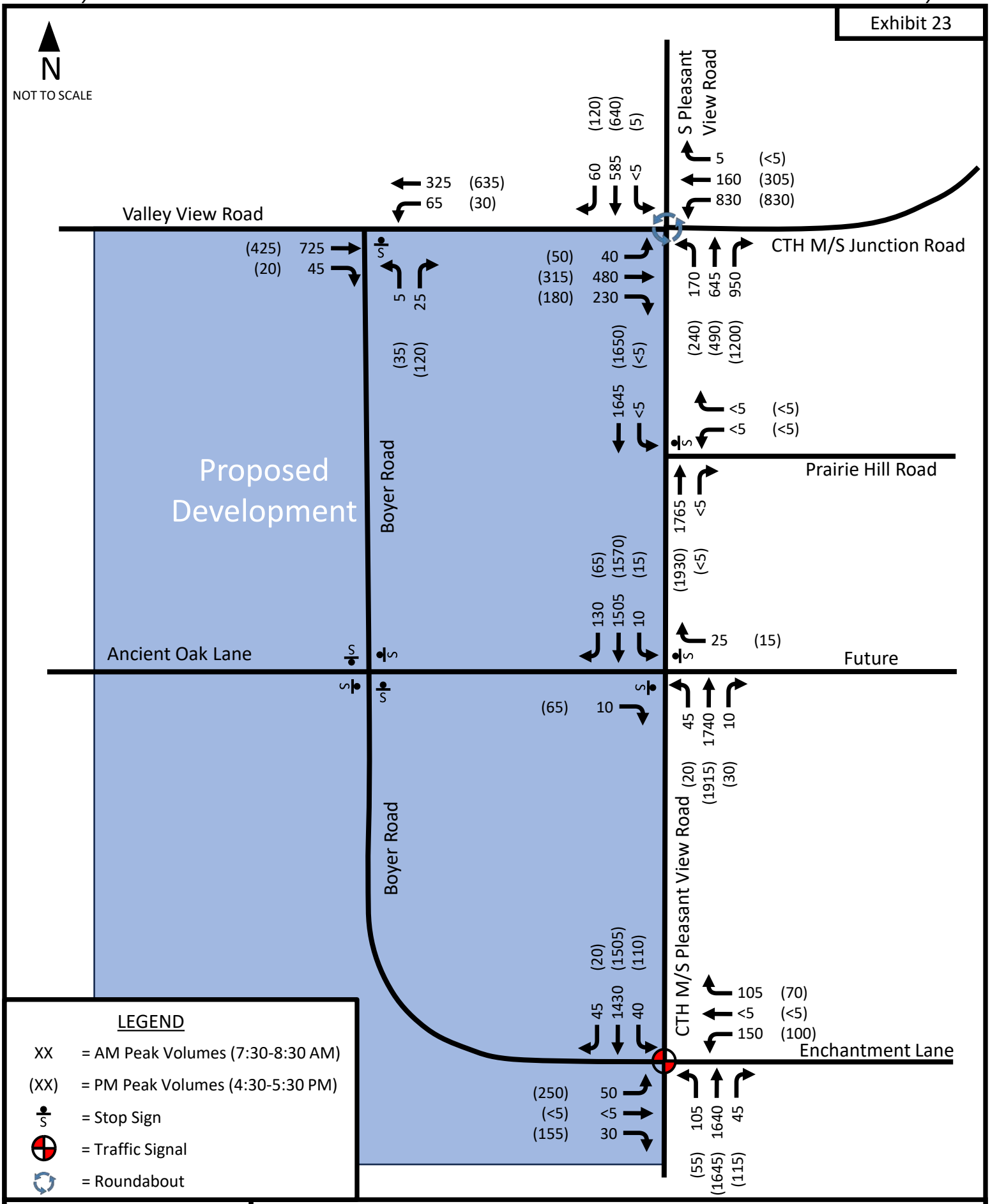
Exhibit 22



KL Engineering [A] Better Experience

Year 2042 Build Traffic Volumes (0.5% Growth Rate)

Exhibit 23



KL Engineering [A] Better Experience

Year 2042 Build Traffic Volumes (1.2% Growth Rate)

5.0 Build Conditions

5.1 Year 2032 Build Traffic – 0.5% Growth Rate

Year 2032 build traffic operations were analyzed using the proposed roadway network and intersection control, including the traffic signal at the intersection of S Pleasant View Road with Boyer Road, and year 2032 build traffic volumes with a 0.5% annual growth rate. **Table 9** summarizes the Year 2032 build traffic operations at the study intersections during the AM and PM peak hours.

Table 9. Level of Service by Movement – Year 2032 Build Traffic – 0.5% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Boyer Road/Enchantment Lane	Traffic Signal	Number of Lanes		1	1	0	1	1	0	1	3	0	1	2	1	
		AM	LOS	C	C	C	C	C	C	D	A	A	D	B	A	B
			DELAY (sec)	33	30	30	32	30	30	35	9	9	37	14	8	
			V/C	0.25	0.16	0.16	0.33	0.27	0.27	0.69	0.51	0.51	0.32	0.71	0.04	
			Queue (ft)	45	25	25	65	45	45	95	175	195	<25	295	<25	
		PM	LOS	C	D	D	C	D	D	D	C	C	D	C	B	C
			DELAY (sec)	34	39	39	29	38	38	43	21	21	43	27	14	
			V/C	0.62	0.62	0.62	0.19	0.19	0.19	0.48	0.64	0.64	0.46	0.84	0.02	
			Queue (ft)	230	165	165	45	30	30	55	300	325	50	455	<25	
S Pleasant View Road & Ancient Oak Lane	Two-Way Stop Control (TWSC)	Number of Lanes		0	0	1	0	0	1	1	3	0	1	2	1	
		AM	LOS			B			C	B	-	-	C	-	-	-
			DELAY (sec)			15			19	15	-	-	24	-	-	
			V/C			0.03			0.06	0.12	-	-	0.03	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
		PM	LOS			C			C	B	-	-	D	-	-	-
			DELAY (sec)			16			19	13	-	-	27	-	-	
			V/C			0.17			0.04	0.04	-	-	0.09	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	
		AM	LOS	D	C	D	D	C	A	A	A	A	C	C	A	B
			DELAY (sec)	26	24	30	28	18	5	10	10	0	19	18	5	
			V/C	0.61	0.61	0.62	0.79	0.66	0.01	0.42	0.46	0.00	0.55	0.56	0.07	
			Queue (ft)	100	100	100	195	125	<25	55	60	<25	80	85	<25	
		PM	LOS	C	B	C	C	B	A	A	A	A	C	C	A	B
			DELAY (sec)	16	15	18	21	15	5	7	7	0	22	21	6	
			V/C	0.38	0.38	0.41	0.73	0.61	0.00	0.31	0.34	0.00	0.59	0.60	0.14	
			Queue (ft)	45	45	50	160	105	<25	35	40	<25	95	100	<25	
Valley View Road & Boyer Road	One-Way Stop Control (OWSC)	Number of Lanes		0	1	0	1	1	0	1	0	1	0	0	0	
		AM	LOS		-	-	A	-		C		B				-
			DELAY (sec)		-	-	10	-		24		14				
			V/C		-	-	0.08	-		0.03		0.06				
			Queue (ft)		-	-	<25	-		<25		<25				
		PM	LOS		-	-	A	-		C		B				-
			DELAY (sec)		-	-	8	-		21		12				
			V/C		-	-	0.03	-		0.14		0.19				
			Queue (ft)		-	-	<25	-		<25		<25				

Note: "-" indicates that delay, volume to capacity ratio and/or queue for a movement or intersection is not calculated per HCM analysis procedures.

All traffic movements are anticipated to operate at LOS D or better under the Year 2032 build traffic – 0.5% growth rate volume scenario. Estimated queue lengths at study intersections under Year 2032 build conditions are summarized in **Exhibit 24.**

Year 2032 build operational analysis outputs are provided in **Appendix D**.

5.2 Year 2032 Build Traffic – 1.2% Growth Rate

Year 2032 build traffic operations were analyzed using the proposed roadway network and intersection control, including the traffic signal at the intersection of S Pleasant View Road with Boyer Road, and year 2032 build traffic volumes with a 1.2% annual growth rate. **Table 10** summarizes the Year 2032 build traffic operations at the study intersections during the AM and PM peak hours.

Table 10. Level of Service by Movement – Year 2032 Build Traffic – 1.2% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Boyer Road/Enchantment Lane	Traffic Signal	Number of Lanes		1	1	0	1	1	0	1	3	0	1	2	1	B
		AM	LOS	C	C	C	C	C	C	D	A	A	D	B	A	
			DELAY (sec)	33	30	30	33	31	31	36	9	10	37	15	8	
			V/C	0.25	0.17	0.17	0.34	0.28	0.28	0.69	0.53	0.53	0.32	0.73	0.04	
			Queue (ft)	45	25	25	65	45	45	95	190	205	<25	315	<25	
		PM	LOS	C	D	D	C	D	D	D	C	C	D	C	B	C
			DELAY (sec)	35	40	40	29	38	38	43	21	22	43	28	14	
			V/C	0.62	0.62	0.62	0.19	0.19	0.19	0.48	0.66	0.66	0.46	0.87	0.02	
			Queue (ft)	235	165	165	45	30	30	60	315	340	55	490	<25	
S Pleasant View Road & Ancient Oak Lane	Two-Way Stop Control (TWSC)	Number of Lanes		0	0	1	0	0	1	1	3	0	1	2	1	-
		AM	LOS			C			C	C	-	-	D	-	-	
			DELAY (sec)			15			20	15	-	-	25	-	-	
			V/C			0.03			0.06	0.13	-	-	0.03	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
		PM	LOS			C			C	B	-	-	D	-	-	-
			DELAY (sec)			16			20	13	-	-	29	-	-	
			V/C			0.17			0.04	0.05	-	-	0.09	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	C
		AM	LOS	D	D	**E**	D	C	A	B	B	A	C	C	A	
			DELAY (sec)	31	28	36	34	20	6	10	11	0	21	20	5	
			V/C	0.67	0.67	0.69	0.84	0.70	0.01	0.45	0.49	0.00	0.58	0.60	0.07	
			Queue (ft)	115	120	120	230	140	<25	60	70	<25	95	100	<25	
		PM	LOS	C	C	C	C	C	A	A	A	A	C	C	A	B
			DELAY (sec)	17	16	20	24	16	5	7	7	0	25	23	6	
			V/C	0.41	0.41	0.45	0.77	0.64	0.00	0.32	0.35	0.00	0.64	0.65	0.14	
			Queue (ft)	50	50	55	185	120	<25	35	40	<25	110	115	<25	
Valley View Road & Boyer Road	One-Way Stop Control (OWSC)	Number of Lanes		0	1	0	1	1	0	1	0	1	0	0	0	-
		AM	LOS		-	-	A	-		C		B				
			DELAY (sec)		-	-	10	-		25		14				
			V/C		-	-	0.09	-		0.03		0.07				
			Queue (ft)		-	-	<25	-		<25		<25				
		PM	LOS		-	-	A	-		C		B				-
			DELAY (sec)		-	-	8	-		22		12				
			V/C		-	-	0.03	-		0.14		0.19				
			Queue (ft)		-	-	<25	-		<25		<25				

Note: "-" indicates that delay, volume to capacity ratio and/or queue for a movement or intersection is not calculated per HCM analysis procedures.

All traffic movements are anticipated to operate at LOS D or better under the Year 2032 build traffic – 1.2% growth rate volume scenario, with the exception of the eastbound right-turn movement at the intersection of S Pleasant View Road with Valley View Road/S Junction Road. This movement is anticipated to operate at LOS E during the AM peak hour. Queues for this movement are anticipated to remain within lane storage. Estimated queue lengths at study intersections under Year 2032 build conditions are summarized in **Exhibit 25.**

Year 2032 build operational analysis outputs are provided in **Appendix D**.

5.3 Year 2042 Build Traffic – 0.5% Growth Rate

Horizon year 2042 build traffic operations were analyzed using the proposed roadway network and intersection control, and Year 2042 build traffic volumes with a 0.5% annual growth rate. **Table 11** summarizes the Year 2042 build traffic operations at the study intersections during the AM and PM peak hours.

Table 11. Level of Service by Movement – Year 2042 Build Traffic – 0.5% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Boyer Road/Enchantment Lane	Traffic Signal	Number of Lanes		1	1	0	1	1	0	1	3	0	1	2	1	
		AM	LOS	C	C	C	C	C	C	C	B	B	C	B	A	B
			DELAY (sec)	32	27	27	32	29	29	34	13	13	34	19	10	
			V/C	0.25	0.13	0.13	0.56	0.45	0.45	0.68	0.61	0.61	0.39	0.81	0.04	
			Queue (ft)	45	<25	<25	135	85	85	90	230	245	35	350	<25	
		PM	LOS	C	D	D	C	D	D	D	C	C	D	D	B	C
			DELAY (sec)	33	40	40	28	37	37	40	26	28	42	35	15	
			V/C	0.65	0.65	0.65	0.34	0.40	0.40	0.47	0.78	0.78	0.74	0.93	0.02	
			Queue (ft)	220	160	160	80	70	70	55	360	395	110	525	<25	
S Pleasant View Road & Ancient Oak Lane	Two-Way Stop Control (TWSC)	Number of Lanes		0	0	1	0	0	1	1	3	0	1	2	1	
		AM	LOS			C			C	C	-	-	D	-	-	-
			DELAY (sec)			16			21	16	-	-	28	-	-	
			V/C			0.03			0.11	0.13	-	-	0.07	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
		PM	LOS			C			C	B	-	-	D	-	-	-
			DELAY (sec)			17			21	14	-	-	30	-	-	
			V/C			0.18			0.06	0.05	-	-	0.10	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	
		AM	LOS	D	D	**E**	**E**	C	A	B	B	A	C	C	A	C
			DELAY (sec)	34	30	40	40	23	6	10	11	0	23	22	5	
			V/C	0.69	0.69	0.73	0.88	0.73	0.01	0.47	0.50	0.00	0.62	0.63	0.07	
			Queue (ft)	125	125	135	265	160	<25	65	75	<25	105	110	<25	
		PM	LOS	C	C	C	D	C	A	A	A	A	D	D	A	B
			DELAY (sec)	19	17	24	29	18	5	7	7	0	30	28	6	
			V/C	0.43	0.43	0.51	0.82	0.68	0.00	0.33	0.36	0.00	0.69	0.70	0.14	
			Queue (ft)	55	55	70	220	140	<25	35	45	<25	130	135	<25	
Valley View Road & Boyer Road	One-Way Stop Control (OWSC)	Number of Lanes		0	1	0	1	1	0	1	0	1	0	0	0	
		AM	LOS		-	-	A	-		D		B				-
			DELAY (sec)		-	-	10	-		25		14				
			V/C		-	-	0.09	-		0.03		0.07				
			Queue (ft)		-	-	<25	-		<25		<25				
		PM	LOS		-	-	A	-		C		B				-
			DELAY (sec)		-	-	8	-		22		12				
			V/C		-	-	0.03	-		0.15		0.19				
			Queue (ft)		-	-	<25	-		<25		<25				

Note: "-" indicates that delay, volume to capacity ratio and/or queue for a movement or intersection is not calculated per HCM analysis procedures.

All movements are anticipated to operate at LOS D or better under the Year 2042 build traffic – 0.5% growth rate volume scenario, with the exception of the eastbound right and westbound left-turn movement at the intersection of S Pleasant View Road with Valley View Road/S Junction Road. These movements are anticipated to operate at LOS E during the AM peak hour. Queues for those movements are anticipated to remain within lane storage. Estimated queue lengths at study intersections under Year 2042 build conditions are summarized in **Exhibit 26**.

Year 2042 build operational analysis outputs are provided in **Appendix D**.

5.4 Year 2042 Build Traffic – 1.2% Growth Rate

Horizon year 2042 build traffic operations were analyzed using the proposed roadway network and intersection control, and Year 2042 build traffic volumes with a 0.5% annual growth rate. **Table 12** summarizes the Year 2042 build traffic operations at the study intersections during the AM and PM peak hours.

Table 12. Level of Service by Movement – Year 2042 Build Traffic – 1.2% Growth Rate

Intersection	Intersection Control	Peak Hour	Parameters	Level of Service per Movement by Approach												Overall Intersection LOS
				Eastbound			Westbound			Northbound			Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
S Pleasant View Road & Boyer Road/Enchantment Lane	Traffic Signal	Number of Lanes		1	1	0	1	1	0	1	3	0	1	2	1	
		AM	LOS	C	C	C	C	C	C	D	B	B	C	C	A	B
			DELAY (sec)	33	27	27	33	29	29	35	14	15	35	23	10	
			V/C	0.26	0.13	0.13	0.57	0.45	0.45	0.69	0.67	0.67	0.39	0.89	0.04	
			Queue (ft)	45	<25	<25	135	90	90	95	265	290	35	435	<25	
		PM	LOS	D	D	D	C	D	D	D	C	C	C	C	B	C
			DELAY (sec)	43	52	52	33	42	42	46	24	26	30	32	14	
			V/C	0.73	0.74	0.74	0.40	0.45	0.45	0.50	0.75	0.75	0.80	0.92	0.02	
			Queue (ft)	60	195	195	95	80	80	60	405	440	130	595	<25	
S Pleasant View Road & Ancient Oak Lane	Two-Way Stop Control (TWSC)	Number of Lanes		0	0	1	0	0	1	1	3	0	1	2	1	
		AM	LOS			C			C	C	-	-	D	-	-	-
			DELAY (sec)			17			24	18	-	-	34	-	-	
			V/C			0.04			0.13	0.15	-	-	0.08	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
		PM	LOS			C			C	C	-	-	E	-	-	-
			DELAY (sec)			19			23	15	-	-	37	-	-	
			V/C			0.21			0.07	0.06	-	-	0.12	-	-	
			Queue (ft)			<25			<25	<25	-	-	<25	-	-	
S Pleasant View Road & Valley View Road/S Junction Road	Roundabout	Number of Lanes		0	2	1	1	1	1	0	2	1	0	2	1	
		AM	LOS	F	F	F	F	E	A	B	B	A	E	D	A	D
			DELAY (sec)	62	55	78	80	37	6	13	13	0	35	33	5	
			V/C	0.88	0.87	0.93	**1.05**	0.86	0.01	0.55	0.59	0.00	0.75	0.76	0.08	
			Queue (ft)	200	205	215	420	240	<25	85	100	<25	155	165	<25	
		PM	LOS	D	C	D	F	D	A	A	A	A	F	E	A	C
			DELAY (sec)	26	23	35	54	27	5	8	8	0	54	49	7	
			V/C	0.54	0.54	0.63	0.97	0.80	0.00	0.37	0.41	0.00	0.87	0.87	0.17	
			Queue (ft)	75	75	100	355	205	<25	45	50	<25	205	215	<25	
Valley View Road & Boyer Road	One-Way Stop Control (OWSC)	Number of Lanes		0	1	0	1	1	0	1	0	1	0	0	0	
		AM	LOS		-	-	B	-		D		C				-
			DELAY (sec)		-	-	10	-		29		16				
			V/C		-	-	0.09	-		0.04		0.08				
			Queue (ft)		-	-	<25	-		<25		<25				
		PM	LOS		-	-	A	-		D		B				-
			DELAY (sec)		-	-	8	-		26		12				
			V/C		-	-	0.03	-		0.17		0.20				
			Queue (ft)		-	-	<25	-		<25		<25				

Note: "-" indicates that delay, volume to capacity ratio and/or queue for a movement or intersection is not calculated per HCM analysis procedures.

All movements at the study intersections except for the roundabout are anticipated to operate at LOS D or better under the Year 2042 build traffic – 1.2% growth rate volume scenario, with the exception of the southbound-left movement at the intersection of S Pleasant View Road with Ancient Oak Lane in the PM peak hour, which is anticipated to operate at LOS E. However, queues are anticipated to be accommodated by available storage. If drivers find this delay unacceptable, they are anticipated to use alternative routes to access areas to the east.

At the intersection of S Pleasant View Road with Valley View Road/S Junction Road, operations are anticipated to deteriorate for eastbound, westbound, and southbound movements in both the AM and PM peak hours. Estimated queue lengths at study intersections under Year 2042 build conditions are summarized in **Exhibit 27**.

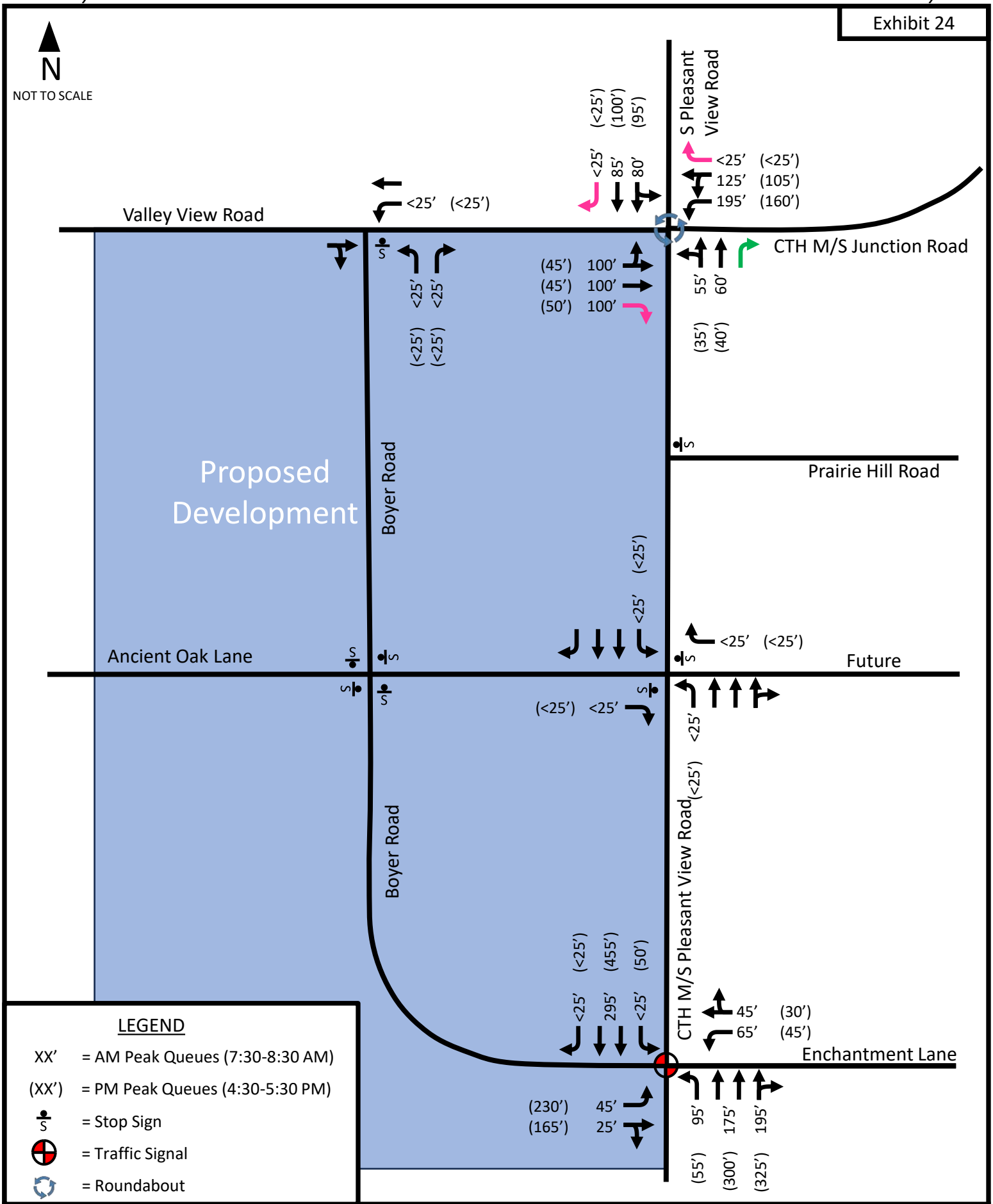
Year 2042 build operational analysis outputs are provided in **Appendix D**.

Improvements at the Valley View Road intersection with S Pleasant View Road are not recommended because of the following:

- Based on a comparison of historical population growth and traffic volume growth on S Pleasant View Road, the 1.2% growth rate leading to these operations may be overly conservative.
- Roundabout level of service is based on unsignalized delay thresholds. Delays remain just over 40 seconds for the few movements experiencing LOS E with a 0.5% annual growth rate.

- Queues remain reasonable and v/c ratios remain below 1.0 for those movements.
- Improvements that would reduce delays for those movements are not likely feasible without major reconstruction of the roundabout and adjacent roadways.
- The development and background growth volumes included in the year 2042 build traffic scenario represent much of the development potential in the area. Operations are not anticipated to continue to deteriorate after year 2042.

Exhibit 24



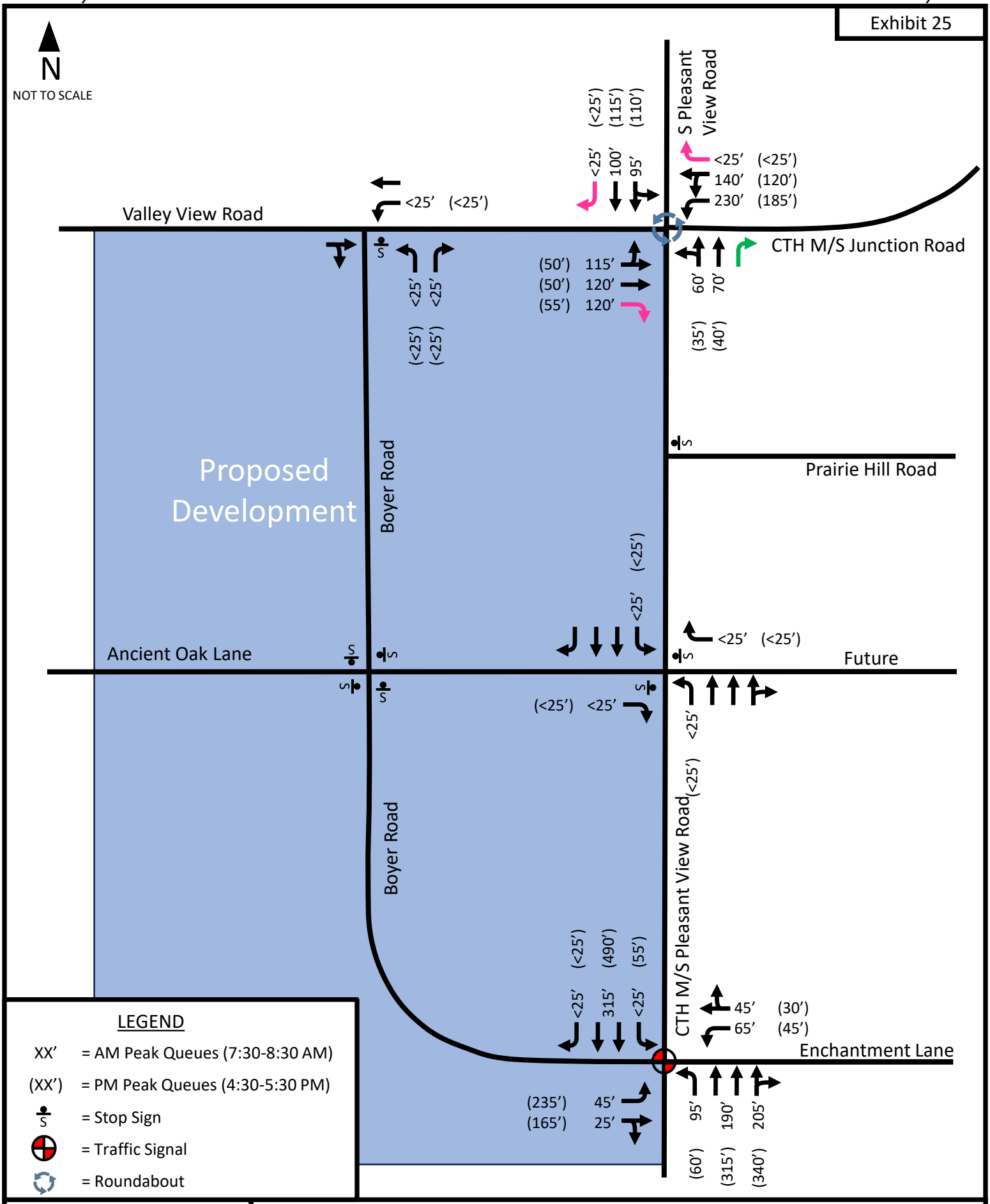
LEGEND

XX'	= AM Peak Queues (7:30-8:30 AM)
(XX')	= PM Peak Queues (4:30-5:30 PM)
	= Stop Sign
	= Traffic Signal
	= Roundabout

KL Engineering [A] Better Experience

Year 2032 Build 95th Percentile Queues (0.5% Growth Rate)

Exhibit 25



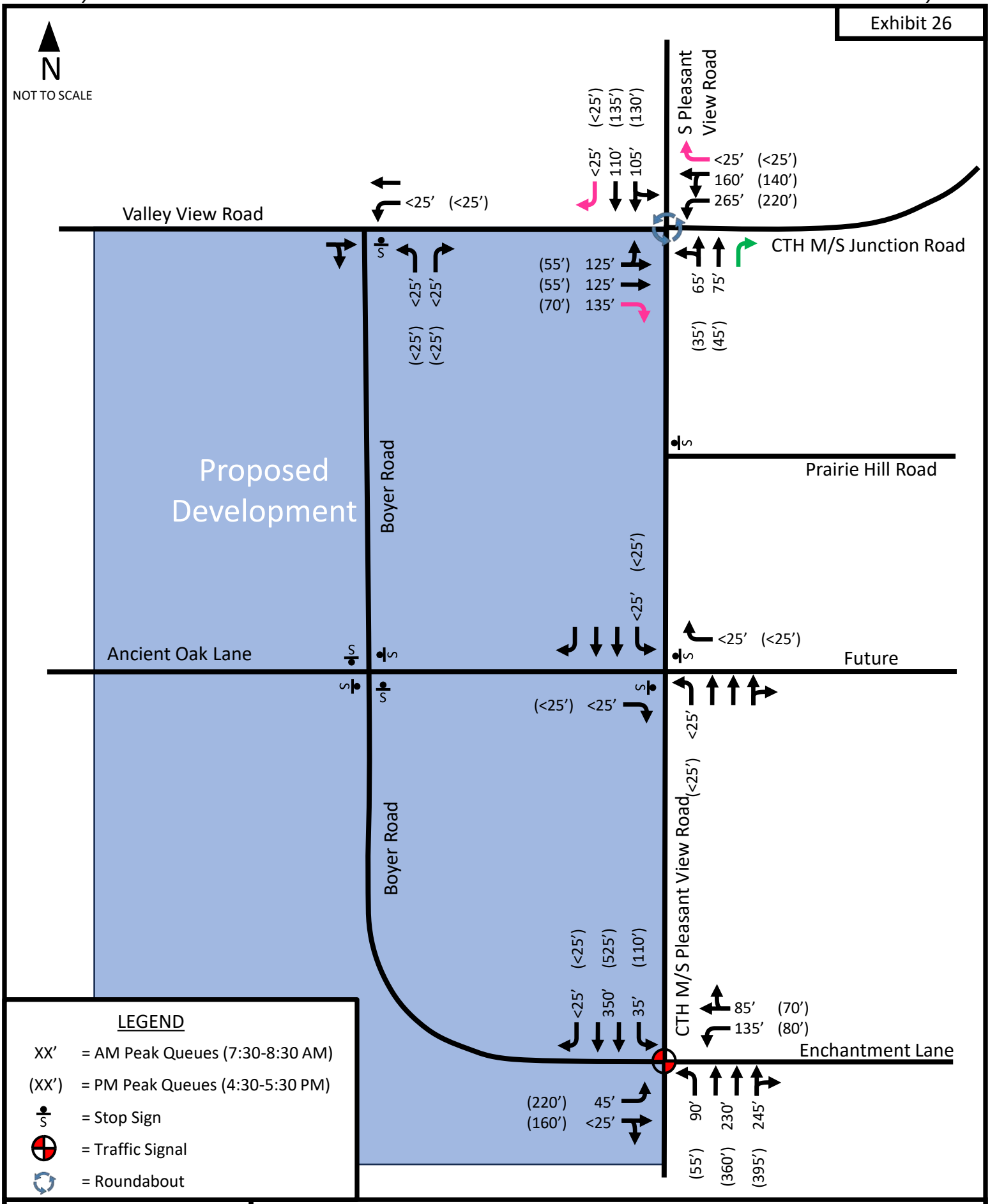
LEGEND

XX'	= AM Peak Queues (7:30-8:30 AM)
(XX')	= PM Peak Queues (4:30-5:30 PM)
	= Stop Sign
	= Traffic Signal
	= Roundabout

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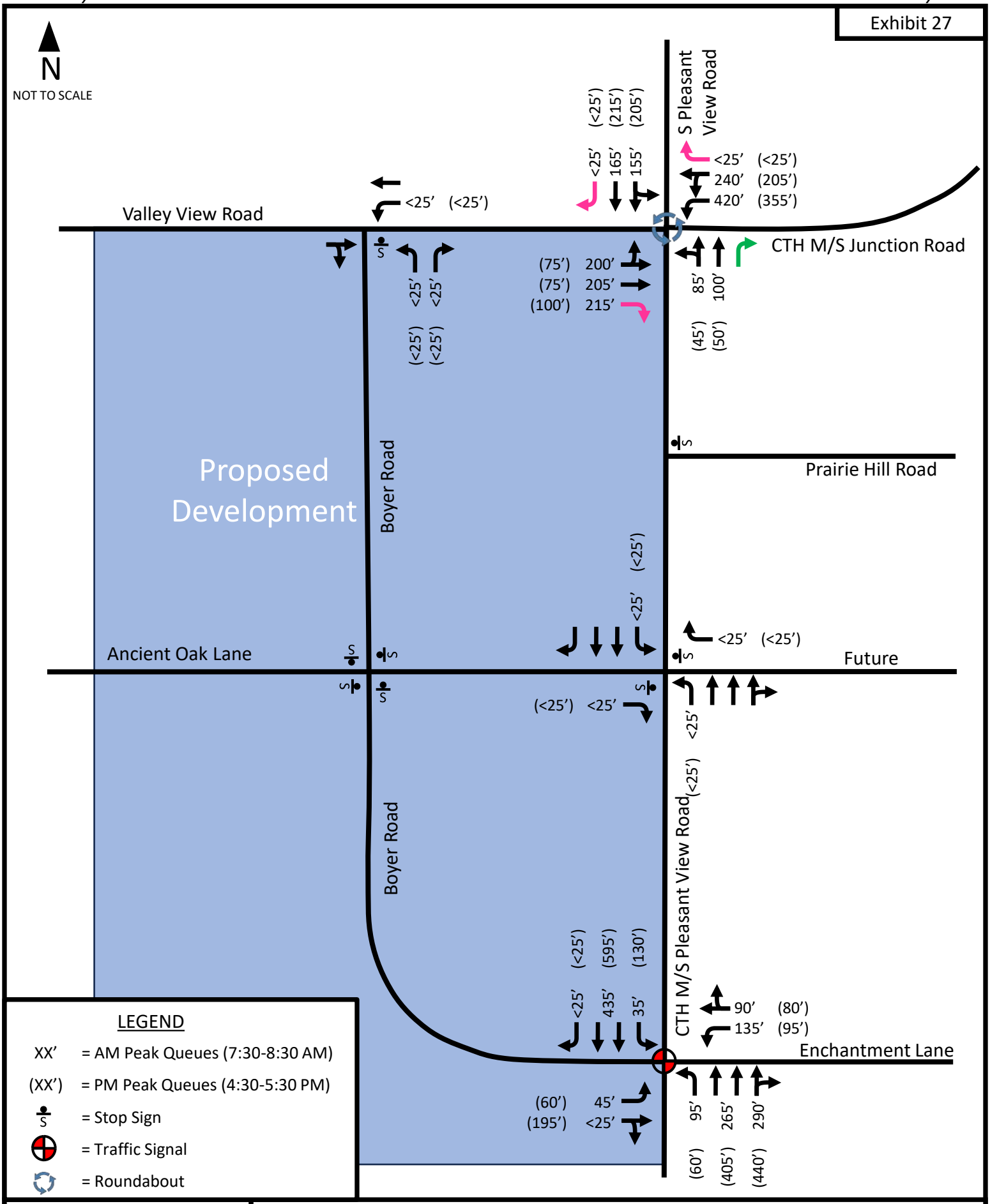
Year 2032 Build 95th Percentile Queues (1.2% Growth Rate)

Exhibit 26



Year 2042 Build 95th Percentile Queues (0.5% Growth Rate)

Exhibit 27



LEGEND

XX' = AM Peak Queues (7:30-8:30 AM)

(XX') = PM Peak Queues (4:30-5:30 PM)

= Stop Sign

= Traffic Signal

= Roundabout

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Year 2042 Build 95th Percentile Queues (1.2% Growth Rate)

6.0 Summary and Recommendations

Information and analysis in this report document existing conditions near the proposed development site and expected traffic operations after completion of the proposed development. In summary, the findings of this study are as follows:

- UWRP is proposing public improvements through a development site to prepare lots to be sold for commercial development.
- Nine lots will be sold, and each is anticipated to be used to construct approximately 100,000 sf research and development facilities.
- The public improvements include constructing a new roadway, Boyer Road, that would connect from Valley View Road to S Pleasant View Road and extending Ancient Oak Lane to connect to S Pleasant View Road. Access to each of the lots to be sold for development will be provided via Ancient Oak Lane and/or Boyer Road.
- Existing traffic operations at the existing study intersection are relatively uncongested with movements that operate at LOS C or better.
- The proposed development is expected to generate 555 new trips during the morning peak hour and 835 new trips during the afternoon peak hour.
- Improvements recommended with the development were identified that are anticipated to promote efficiency and safety for the traveling public. They include the proposed public roadways and the configuration of their connections to Valley View Road and S Pleasant View Road, including a traffic signal at the intersection of S Pleasant View Road with Boyer Road. Those improvements are summarized in Exhibit 14.
- Traffic conditions expected upon completion of the development and recommended improvements are expected to be acceptable through the horizon year using a 0.5% annual traffic volume growth rate. In the year 2042 build traffic scenario, all movements at study intersections are anticipated to operate at LOS D or better except for the eastbound right and westbound left turns at the Valley View Road intersection with S Pleasant View Road. Those movements are anticipated to operate at LOS E. Queues for those movements remain acceptable into the horizon year and volume to capacity ratios remain under 1.0.

APPENDIX A

Traffic Counts

2027 Background Peak Hour Factor and Heavy Vehicle Percentage							
Intersection	Peak	Time	PHF	Truck Percentage			
				SB	WB	NB	EB
S Pleasant View Road & Boyer Road/Enchantment Lane	AM	7:30	0.90	2%†	2%	3%‡	2%
	PM	4:30	0.97	1%*†	2%	1%*‡	2%
S Pleasant View Road & Ancient Oak Lane	AM	7:30	0.90	2%†	2%	3%‡	2%
	PM	4:30	0.97	1%*†	2%	1%*‡	2%
S Pleasant View Road & Valley View Road/S Junction Road	AM	7:30	0.90	2%	1%*	3%	3%
	PM	4:30	0.97	1%*	0%*	1%*	1%*
Valley View Road & Boyer Road	AM	7:30	0.90	-	1%*Ʞ	2%‡	3%Ʞ
	PM	4:30	0.97	-	0%*Ʞ	2%‡	1%*Ʞ

* 2% Truck Percentage used in modeling

† Truck Percentage from S Pleasant View Road & Valley View Road/S Junction Road southbound used.
Ʇ Truck Percentage from S Pleasant View Road & Valley View Road/S Junction Road westbound used.
‡ Truck Percentage from S Pleasant View Road & Valley View Road/S Junction Road northbound used.
Ʞ Truck Percentage from S Pleasant View Road & Valley View Road/S Junction Road eastbound used.
Peak Hour Factor from S Pleasant View Road & Valley View Road/S Junction Road used for all intersections.

Traffic Count Summary

Location: S Pleasant View Road & Valley View Road & S Junction Ro
City of Madison, Dane Co, WI
Date: Wednesday, March 4, 2026

Traffic Control: Roundabout
Hours Counted: 6AM - 9AM & 3PM - 6PM
Counted By: BD,HA,TK

All Vehicles

AM Peak

Roadway	South Pleasant View Road						South Junction Road						South Pleasant View Road						Valley View Road						Intersection	
Approach	Southbound						Westbound						Northbound						Eastbound							
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:30 AM	0	129	5	0	0	0	113	23	1	0	0	0	32	115	181	0	0	0	7	124	68	0	0	0	798	0.90
7:45 AM	0	125	7	0	0	0	157	23	3	0	0	0	31	146	191	0	0	0	9	100	53	0	0	0	845	
8:00 AM	0	96	8	1	1	0	132	29	2	0	0	0	29	124	149	0	0	0	9	85	34	0	0	1	698	
8:15 AM	0	105	13	0	0	0	135	21	1	0	0	0	22	126	163	0	0	0	5	71	24	0	0	0	686	
Movement Total	0	455	33	1	1	0	537	96	7	0	0	0	114	511	684	0	0	0	30	380	179	0	0	1	Total: 3027	
Approach Total	489						640						1309						589							

PM Peak

Approach	Southbound						Westbound						Northbound						Eastbound						Intersection	
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	1	128	20	0	0	0	138	63	0	0	0	0	37	76	196	0	0	0	3	51	34	0	0	0	747	0.97
4:45 PM	0	127	20	0	0	0	139	44	2	0	0	0	39	95	204	0	0	0	4	43	31	0	0	0	748	
5:00 PM	0	127	23	0	0	0	145	63	0	0	0	0	43	85	184	0	0	0	7	44	37	0	0	1	758	
5:15 PM	2	120	27	0	0	0	139	63	0	0	0	0	40	107	211	0	0	0	2	45	29	0	0	0	785	
Movement Total	3	502	90	0	0	0	561	233	2	0	0	0	159	363	795	0	0	0	16	183	131	0	0	1	Total: 3038	
Approach Total	595						796						1317						330							

Heavy Vehicles

AM Peak

Roadway	South Pleasant View Road				South Junction Road				South Pleasant View Road				Valley View Road			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:30 AM	0	2	1	0	1	0	0	0	1	0	11	0	0	10	3	0
7:45 AM	0	3	0	0	2	0	0	0	3	0	5	0	0	0	1	0
8:00 AM	0	1	1	0	2	1	0	0	2	3	4	0	0	0	1	0
8:15 AM	0	1	2	0	2	0	0	0	0	1	4	0	0	2	0	0
Movement Total	0	7	4	0	7	1	0	0	6	4	24	0	0	12	5	0
Approach Total	11				8				34				17			
Heavy Vehicle %	2%				1%				3%				3%			

PM Peak

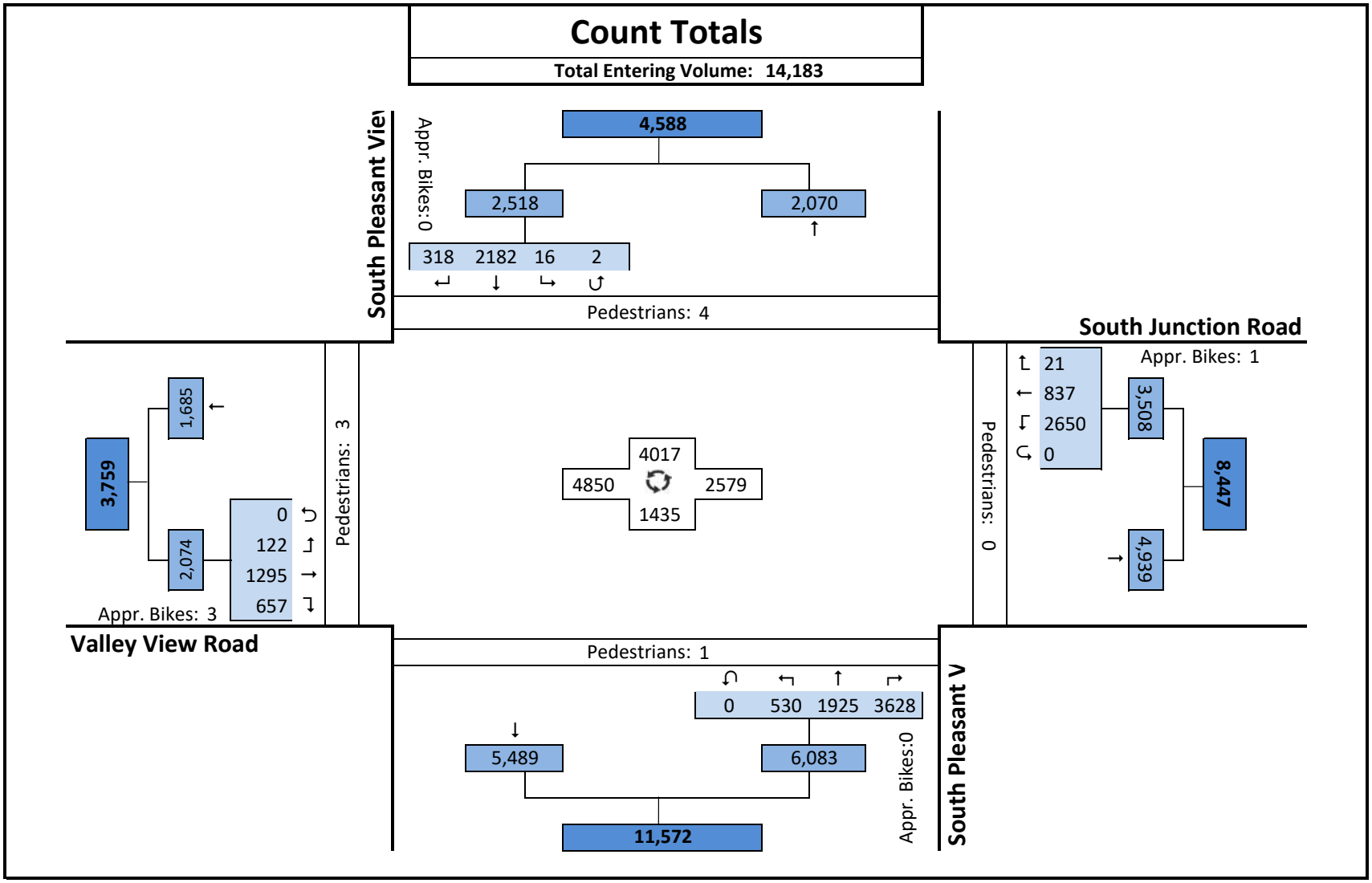
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	0	1	0	1	0	0	0	0	1	0	0	0	2	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0
5:15 PM	1	1	0	0	0	0	0	0	0	1	5	0	0	1	0	0
Movement Total	1	3	1	0	2	0	0	0	0	3	8	0	0	3	0	0
Approach Total	5				2				11				3			
Heavy Vehicle %	1%				0%				1%				1%			

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Turning Movement Diagram

Location: S Pleasant View Road & Valley View Road & S Junction Road
Madison, WI 53719
Date: Wednesday, March 4, 2026

Traffic Control: Roundabout
Hours Counted: 6AM - 9AM & 3PM - 6PM
Counted By: BD,HA,TK

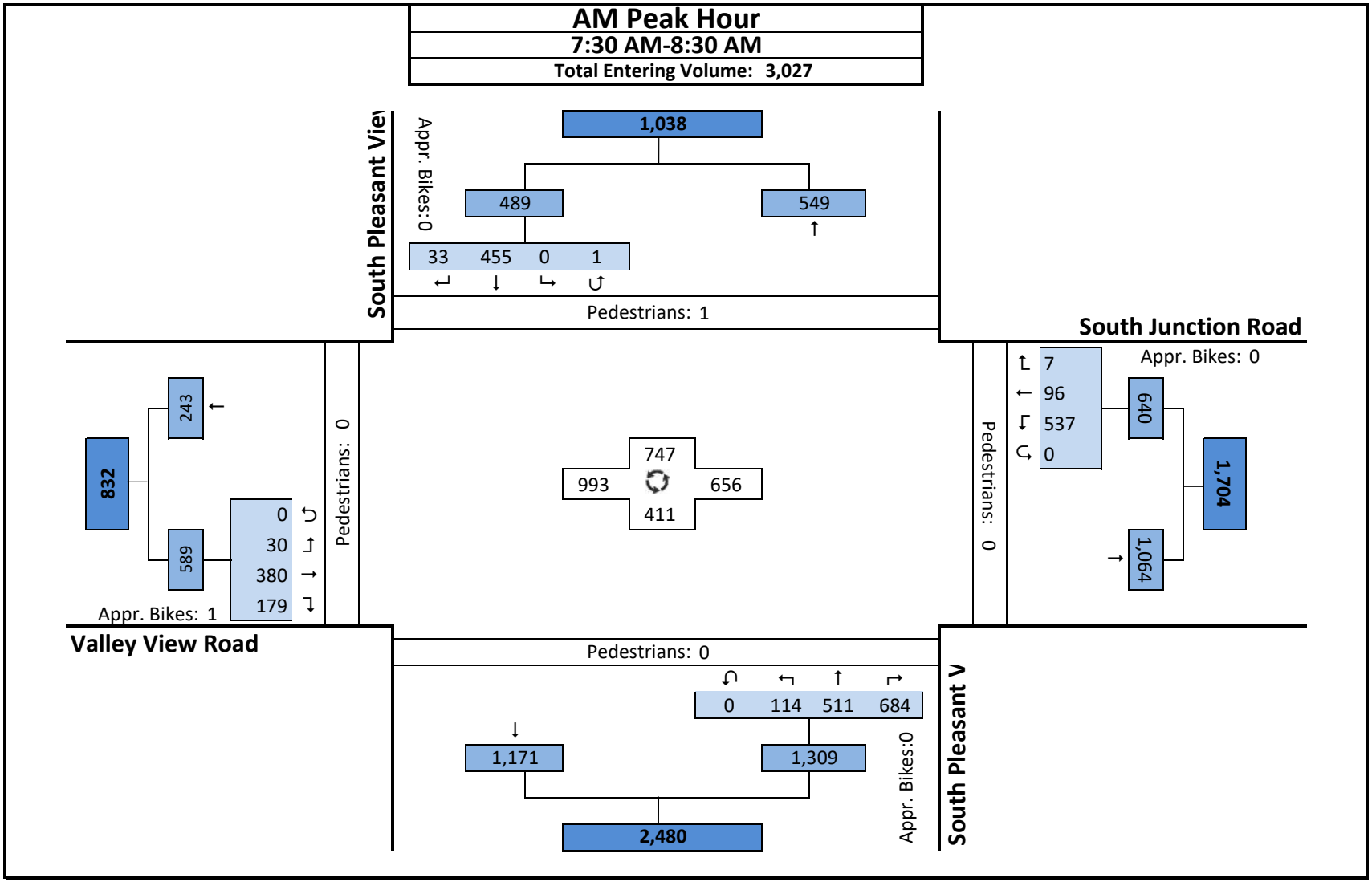


KL Engineering
[A] Better Experience

Turning Movement Diagram

Location: S Pleasant View Road & Valley View Road & S Junction Road
Madison, WI 53719
Date: Wednesday, March 4, 2026

Traffic Control: Roundabout
Hours Counted: 6AM - 9AM & 3PM - 6PM
Counted By: BD,HA,TK

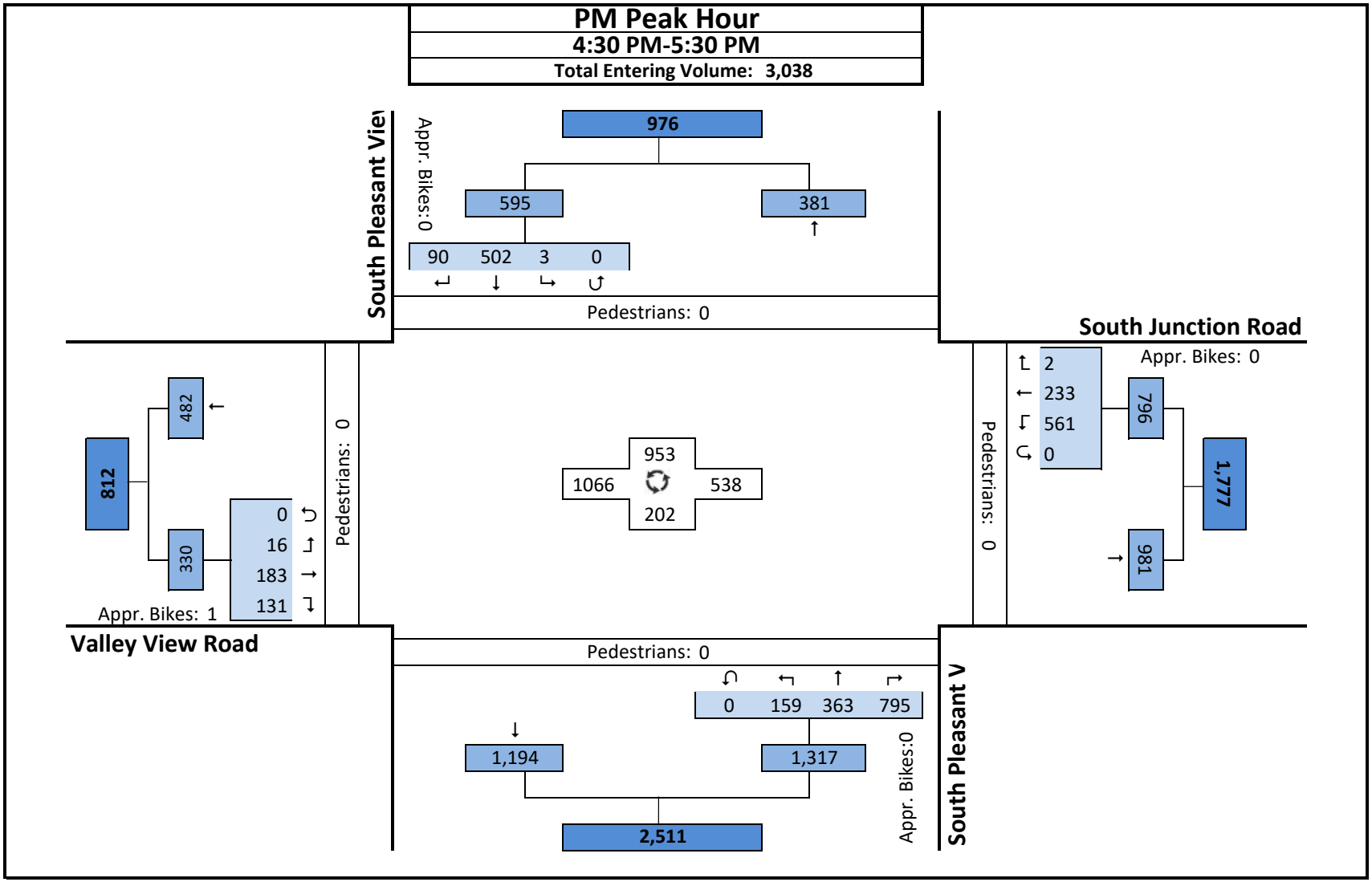


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[A] Better Experience

Turning Movement Diagram

Location: S Pleasant View Road & Valley View Road & S Junction Road
Madison, WI 53719
Date: Wednesday, March 4, 2026

Traffic Control: Roundabout
Hours Counted: 6AM - 9AM & 3PM - 6PM
Counted By: BD,HA,TK



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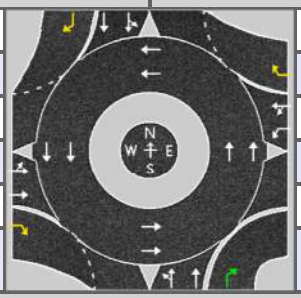
APPENDIX B

Existing Traffic Analysis Output

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2027
Time Analyzed	AM Peak
Project Description	Background Conditions



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	30	380	180	0	535	95	5	0	115	510	685	0	1	455	35
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	34	435	206	0	606	108	6	0	132	584	784	0	1	516	40
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	220	249	206	378	336	6	337	379	784	243	274	40
Entry Volume, veh/h	214	241	200	371	329	6	327	368	761	238	269	39
Circulating Flow (v_c), pc/h	1123			750			470			846		
Exiting Flow (v_{ex}), pc/h	436			240			618			1122		
Capacity (c_{pce}), pc/h	495	543	446	696	741	717	900	936		638	684	1025
Capacity (c), veh/h	480	527	433	683	727	703	874	909		625	671	1005
v/c Ratio (x)	0.45	0.46	0.46	0.54	0.45	0.01	0.37	0.41		0.38	0.40	0.04

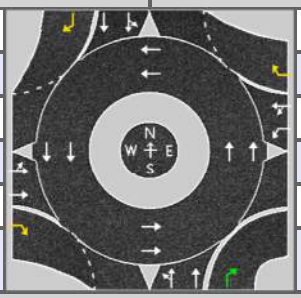
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	15.6	14.7	17.6	14.1	11.3	5.2	8.4	8.7		11.2	10.9	3.9
Lane LOS	C	B	C	B	B	A	A	A	A	B	B	A
95% Queue Length, Q_{95} (veh)	2.3	2.4	2.4	3.3	2.4	0.0	1.7	2.0		1.8	1.9	0.1
95% Queue Length, Q_{95} (ft)	58.9	61.4	61.4		61.0	0.0	43.5	51.2		45.7	48.3	2.5
Approach Delay, s/veh | LOS	15.9	C		12.7	B		4.1	A		10.5	B	
Intersection Delay, s/veh | LOS	9.2						A					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2027
Time Analyzed	PM Peak
Project Description	Background Conditions



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	15	185	130	0	560	235	1	0	160	365	795	0	5	500	90
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	16	195	137	0	589	247	1	0	168	384	836	0	5	526	95
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	99	112	137	443	393	1	259	293	836	250	281	95
Entry Volume, veh/h	97	110	134	434	385	1	254	287	820	245	276	93
Circulating Flow (v_c), pc/h	1120			568			216			1004		
Exiting Flow (v_{ex}), pc/h	200			415			400			1115		
Capacity (c_{pce}), pc/h	496	544	449	823	863	881	1136	1157		552	600	869
Capacity (c), veh/h	486	534	440	807	846	864	1114	1134		541	588	852
v/c Ratio (x)	0.20	0.21	0.31	0.54	0.46	0.00	0.23	0.25		0.45	0.47	0.11

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	10.2	9.5	13.3	12.2	10.0	4.2	5.3	5.5		14.3	13.8	5.3
Lane LOS	B	A	B	B	B	A	A	A	A	B	B	A
95% Queue Length, Q_{95} (veh)	0.7	0.8	1.3	3.3	2.4	0.0	0.9	1.0		2.3	2.5	0.4
95% Queue Length, Q_{95} (ft)	17.8	20.3	33.0		61.0	0.0	22.9	25.4		58.4	63.5	10.2
Approach Delay, s/veh | LOS	11.2	B		11.2	B		2.2	A		12.7	B	
Intersection Delay, s/veh | LOS	7.6						A					

APPENDIX C

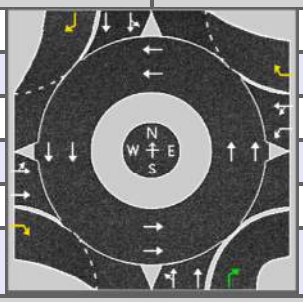
Background Traffic Analysis Output

Year 2032 Background Traffic Analysis Output

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	AM Peak
Project Description	Background Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	30	390	185	0	550	100	5	0	120	525	705	0	1	470	35
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	34	446	212	0	623	113	6	0	137	601	807	0	1	533	40
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	226	254	212	390	346	6	347	391	807	251	283	40
Entry Volume, veh/h	219	247	206	382	339	6	337	380	783	246	277	39
Circulating Flow (v_c), pc/h	1157			772			481			873		
Exiting Flow (v_{ex}), pc/h	447			250			635			1156		
Capacity (c_{pce}), pc/h	479	528	432	682	728	706	891	927		622	669	1015
Capacity (c), veh/h	465	513	419	669	713	692	865	900		610	656	995
v/c Ratio (x)	0.47	0.48	0.49	0.57	0.48	0.01	0.39	0.42		0.40	0.42	0.04

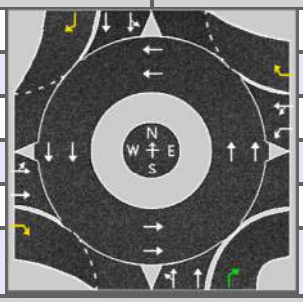
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	16.8	15.8	19.1	15.2	11.9	5.3	8.7	9.0		11.9	11.6	4.0
Lane LOS	C	C	C	C	B	A	A	A	A	B	B	A
95% Queue Length, Q_{95} (veh)	2.5	2.6	2.6	3.6	2.6	0.0	1.9	2.1		1.9	2.1	0.1
95% Queue Length, Q_{95} (ft)	64.0	66.6	66.6		66.0	0.0	48.6	53.8		48.3	53.3	2.5
Approach Delay, s/veh | LOS	17.1	C		13.6	B		4.2	A		11.2	B	
Intersection Delay, s/veh | LOS	9.8						A					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	PM Peak
Project Description	Background Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	15	190	135	0	575	240	1	0	165	375	820	0	5	515	95
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	16	200	142	0	605	252	1	0	174	394	862	0	5	542	100
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	102	114	142	454	403	1	267	301	862	257	290	100
Entry Volume, veh/h	100	112	139	445	395	1	262	295	845	252	284	98
Circulating Flow (v_c), pc/h	1152			584			221			1031		
Exiting Flow (v_{ex}), pc/h	205			426			410			1147		
Capacity (c_{pce}), pc/h	482	530	435	811	851	873	1131	1152		538	586	860
Capacity (c), veh/h	472	520	427	795	834	856	1109	1129		528	575	843
v/c Ratio (x)	0.21	0.22	0.33	0.56	0.47	0.00	0.24	0.26		0.48	0.49	0.12

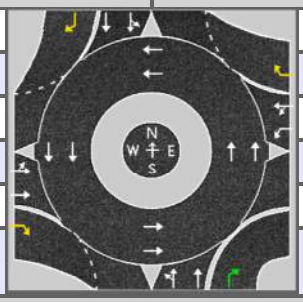
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	10.7	9.9	14.1	12.9	10.5	4.2	5.4	5.6		15.3	14.7	5.4
Lane LOS	B	A	B	B	B	A	A	A	A	C	B	A
95% Queue Length, Q_{95} (veh)	0.8	0.8	1.4	3.5	2.6	0.0	0.9	1.1		2.6	2.7	0.4
95% Queue Length, Q_{95} (ft)	20.3	20.3	35.6		66.0	0.0	22.9	27.9		66.0	68.6	10.2
Approach Delay, s/veh | LOS	11.8	B		11.8	B		2.2	A		13.5	B	
Intersection Delay, s/veh | LOS	8.0						A					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	AM Peak
Project Description	Background Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	30	410	195	0	575	100	5	0	125	550	735	0	1	490	40
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	34	469	223	0	652	113	6	0	143	629	841	0	1	555	45
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	236	267	223	405	360	6	363	409	841	261	295	45
Entry Volume, veh/h	230	259	217	398	353	6	352	397	817	256	289	44
Circulating Flow (v_c), pc/h	1208			806			504			908		
Exiting Flow (v_{ex}), pc/h	470			256			663			1207		
Capacity (c_{pce}), pc/h	458	506	411	661	707	687	872	910		602	650	1010
Capacity (c), veh/h	444	491	399	648	693	674	847	883		591	637	990
v/c Ratio (x)	0.52	0.53	0.54	0.61	0.51	0.01	0.42	0.45		0.43	0.45	0.04

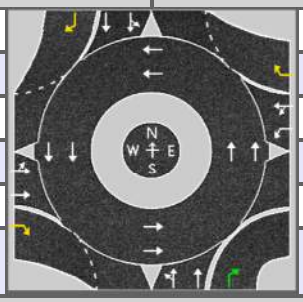
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	19.0	17.8	21.9	17.0	13.0	5.4	9.3	9.6		12.9	12.5	4.0
Lane LOS	C	C	C	C	B	A	A	A	A	B	B	A
95% Queue Length, Q_{95} (veh)	2.9	3.0	3.1	4.2	2.9	0.0	2.1	2.4		2.2	2.4	0.1
95% Queue Length, Q_{95} (ft)	74.2	76.8	79.4		73.7	0.0	53.8	61.4		55.9	61.0	2.5
Approach Delay, s/veh | LOS	19.5	C		15.0	C		4.5	A		12.0	B	
Intersection Delay, s/veh | LOS	10.9						B					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	PM Peak
Project Description	Background Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	15	200	140	0	600	250	1	0	170	390	855	0	5	535	95
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	16	210	147	0	631	263	1	0	179	410	899	0	5	563	100
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	106	120	147	474	420	1	277	312	899	267	301	100
Entry Volume, veh/h	104	117	144	465	412	1	271	306	881	262	295	98
Circulating Flow (v_c), pc/h	1199			605			231			1073		
Exiting Flow (v_{ex}), pc/h	215			442			426			1194		
Capacity (c_{pce}), pc/h	461	510	416	795	836	860	1120	1142		518	566	847
Capacity (c), veh/h	452	500	408	780	820	843	1098	1120		508	555	830
v/c Ratio (x)	0.23	0.23	0.35	0.60	0.50	0.00	0.25	0.27		0.52	0.53	0.12

Delay and Level of Service

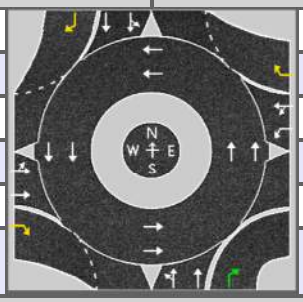
Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	11.5	10.6	15.3	14.2	11.3	4.3	5.6	5.8		17.0	16.3	5.5
Lane LOS	B	B	C	B	B	A	A	A	A	C	C	A
95% Queue Length, Q_{95} (veh)	0.9	0.9	1.6	4.0	2.9	0.0	1.0	1.1		2.9	3.1	0.4
95% Queue Length, Q_{95} (ft)	22.9	22.9	40.6		73.7	0.0	25.4	27.9		73.7	78.7	10.2
Approach Delay, s/veh | LOS	12.7	B		12.8	B		2.3	A		14.9	B	
Intersection Delay, s/veh | LOS	8.6						A					

Year 2042 Background Traffic Analysis Output

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	AM Peak
Project Description	Background Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	30	410	195	0	580	105	5	0	125	550	740	0	1	495	40
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	34	469	223	0	657	119	6	0	143	629	847	0	1	561	45
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	236	267	223	411	365	6	363	409	847	264	298	45
Entry Volume, veh/h	230	259	217	403	358	6	352	397	822	259	292	44
Circulating Flow (v_c), pc/h	1219			806			504			919		
Exiting Flow (v_{ex}), pc/h	470			262			663			1218		
Capacity (c_{pce}), pc/h	453	501	407	661	707	687	872	910		596	644	1004
Capacity (c), veh/h	440	487	395	648	693	674	847	883		585	631	984
v/c Ratio (x)	0.52	0.53	0.55	0.62	0.52	0.01	0.42	0.45		0.44	0.46	0.04

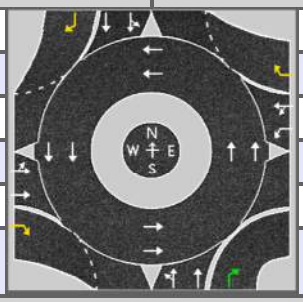
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	19.4	18.1	22.4	17.3	13.2	5.4	9.3	9.6		13.2	12.8	4.1
Lane LOS	C	C	C	C	B	A	A	A	A	B	B	A
95% Queue Length, Q_{95} (veh)	2.9	3.1	3.2	4.3	3.0	0.0	2.1	2.4		2.3	2.4	0.1
95% Queue Length, Q_{95} (ft)	74.2	79.4	81.9		76.2	0.0	53.8	61.4		58.4	61.0	2.5
Approach Delay, s/veh | LOS	19.8	C		15.3	C		4.5	A		12.3	B	
Intersection Delay, s/veh | LOS	11.0						B					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	PM Peak
Project Description	Background Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	15	200	140	0	605	255	1	0	175	395	860	0	5	540	95
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	16	210	147	0	636	268	1	0	184	415	904	0	5	568	100
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	106	120	147	479	425	1	282	317	904	269	304	100
Entry Volume, veh/h	104	117	144	470	417	1	276	311	886	264	298	98
Circulating Flow (v_c), pc/h	1209			615			231			1088		
Exiting Flow (v_{ex}), pc/h	215			452			431			1204		
Capacity (c_{pce}), pc/h	457	506	412	788	829	856	1120	1142		511	559	839
Capacity (c), veh/h	448	496	404	772	813	839	1098	1120		501	548	823
v/c Ratio (x)	0.23	0.24	0.36	0.61	0.51	0.00	0.25	0.28		0.53	0.54	0.12

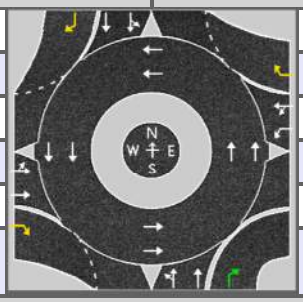
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	11.6	10.7	15.5	14.7	11.5	4.3	5.6	5.8		17.6	16.8	5.6
Lane LOS	B	B	C	B	B	A	A	A	A	C	C	A
95% Queue Length, Q_{95} (veh)	0.9	0.9	1.6	4.2	3.0	0.0	1.0	1.1		3.0	3.2	0.4
95% Queue Length, Q_{95} (ft)	22.9	22.9	40.6		76.2	0.0	25.4	27.9		76.2	81.3	10.2
Approach Delay, s/veh | LOS	12.9	B		13.2	B		2.3	A		15.4	C	
Intersection Delay, s/veh | LOS	8.8						A					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	AM Peak
Project Description	Background Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	35	460	220	0	650	115	5	0	140	615	830	0	1	550	40
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	40	526	252	0	737	130	6	0	160	704	950	0	1	623	45
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	266	300	252	460	407	6	406	458	950	293	331	45
Entry Volume, veh/h	258	291	245	451	400	6	394	445	922	288	324	44
Circulating Flow (v_c), pc/h	1361			904			567			1027		
Exiting Flow (v_{ex}), pc/h	527			290			744			1360		
Capacity (c_{pce}), pc/h	398	445	356	605	652	637	823	863		540	588	978
Capacity (c), veh/h	386	432	346	593	639	624	799	838		530	577	959
v/c Ratio (x)	0.67	0.67	0.71	0.76	0.63	0.01	0.49	0.53		0.54	0.56	0.05

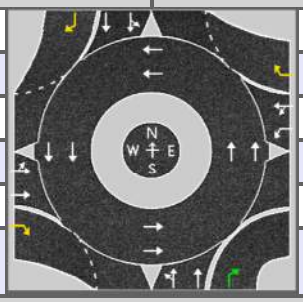
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	29.6	27.2	35.7	26.5	17.7	5.9	11.3	11.7		17.3	16.8	4.2
Lane LOS	D	D	E	D	C	A	B	B	A	C	C	A
95% Queue Length, Q_{95} (veh)	4.7	4.9	5.2	6.9	4.4	0.0	2.8	3.2		3.2	3.5	0.1
95% Queue Length, Q_{95} (ft)	120.3	125.4	133.1		111.8	0.0	71.7	81.9		81.3	88.9	2.5
Approach Delay, s/veh | LOS	30.6	D		22.3	C		5.5	A		16.1	C	
Intersection Delay, s/veh | LOS	15.6						C					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	PM Peak
Project Description	Background Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	20	225	155	0	680	285	1	0	195	440	960	0	5	605	110
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	21	237	163	0	715	300	1	0	205	463	1009	0	5	636	116
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	121	137	163	538	477	1	314	354	1009	301	340	116
Entry Volume, veh/h	119	134	160	527	468	1	308	347	989	295	333	114
Circulating Flow (v_c), pc/h	1356			689			263			1220		
Exiting Flow (v_{ex}), pc/h	242			505			484			1351		
Capacity (c_{pce}), pc/h	399	447	359	736	780	814	1088	1112		453	501	798
Capacity (c), veh/h	392	439	352	722	764	798	1067	1090		444	491	782
v/c Ratio (x)	0.30	0.31	0.45	0.73	0.61	0.00	0.29	0.32		0.67	0.68	0.15

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	14.7	13.3	20.7	20.9	14.9	4.5	6.2	6.4		26.2	24.8	6.1
Lane LOS	B	B	C	C	B	A	A	A	A	D	C	A
95% Queue Length, Q_{95} (veh)	1.3	1.3	2.3	6.4	4.2	0.0	1.2	1.4		4.8	5.0	0.5
95% Queue Length, Q_{95} (ft)	33.0	33.0	58.4		106.7	0.0	30.5	35.6		121.9	127.0	12.7
Approach Delay, s/veh | LOS	16.6	C		18.1	C		2.5	A		22.5	C	
Intersection Delay, s/veh | LOS	12.0						B					

APPENDIX D

Build Traffic Analysis Output

Year 2032 Build Traffic Analysis Output



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	45	65	275	5	25
Future Volume (vph)	610	45	65	275	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1828	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1828	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	678	50	72	306	6	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	728	0	72	306	6	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

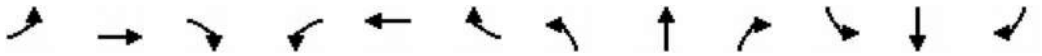
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	610	45	65	275	5	25
Future Vol, veh/h	610	45	65	275	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	678	50	72	306	6	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	728	0	1153	703
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	876	-	218	438
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	876	-	200	438
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	589	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.81	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	438	-	-	876	-
HCM Lane V/C Ratio	0.028	0.063	-	-	0.082	-
HCM Ctrl Dly (s/v)	23.5	13.8	-	-	9.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.3	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	10	0	0	15	45	1450	10	5	1270	130
Future Volume (vph)	0	0	10	0	0	15	45	1450	10	5	1270	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.999				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	0	0	11	0	0	17	50	1611	11	6	1411	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	11	0	0	17	50	1622	0	6	1411	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	15	45	1450	10	5	1270	130
Future Vol, veh/h	0	0	10	0	0	15	45	1450	10	5	1270	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	0	0	11	0	0	17	50	1611	11	6	1411	144

Major/Minor	Minor2		Minor1			Major1				Major2		
Conflicting Flow All	-	-	706	-	-	806	1556	0	-	1611	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.16	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.23	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	379	0	0	279	417	-	0	196	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	379	-	-	279	417	-	-	196	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.8	18.72	0.45	0.08
HCM LOS	B	C		

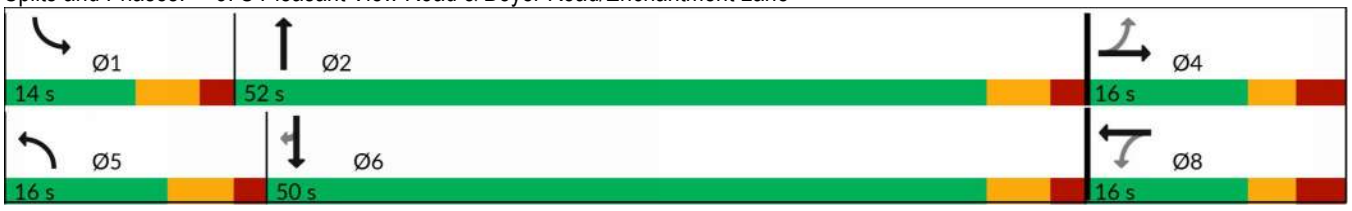
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	417	-	379	279	196	-	-
HCM Lane V/C Ratio	0.12	-	0.029	0.06	0.028	-	-
HCM Ctrl Dly (s/v)	14.8	-	14.8	18.7	23.9	-	-
HCM Lane LOS	B	-	B	C	C	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0.2	0.1	-	-

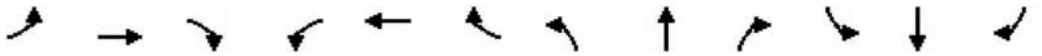
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1	30	75	1	50	105	1405	20	20	1215	45
Future Volume (vph)	50	1	30	75	1	50	105	1405	20	20	1215	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.854			0.853			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1591	0	1770	1589	0	1752	5026	0	1770	3539	1583
Flt Permitted	0.720			0.735			0.950			0.950		
Satd. Flow (perm)	1341	1591	0	1369	1589	0	1752	5026	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		33			56			4				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	56	1	33	83	1	56	117	1561	22	22	1350	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	34	0	83	57	0	117	1583	0	22	1350	31
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	16.0	16.0		16.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	52.0		14.0	50.0	50.0
Total Split (%)	19.5%	19.5%		19.5%	19.5%		19.5%	63.4%		17.1%	61.0%	61.0%
Maximum Green (s)	10.0	10.0		10.0	10.0		10.0	46.0		8.0	44.0	44.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	16.0		0.0	16.0	16.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	10.9	10.9		10.9	10.9		9.6	49.6		8.7	43.5	43.5
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.14	0.71		0.12	0.62	0.62
v/c Ratio	0.27	0.12		0.39	0.20		0.49	0.45		0.10	0.62	0.03
Control Delay (s/veh)	36.1	13.8		38.9	12.0		41.0	8.0		34.7	14.3	9.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	36.1	13.8		38.9	12.0		41.0	8.0		34.7	14.3	9.2
LOS	D	B		D	B		D	A		C	B	A
Approach Delay (s/veh)		27.7			28.0			10.3			14.5	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 70.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 13.3		Intersection LOS: B	
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1	30	75	1	50	105	1405	20	20	1215	45
Future Volume (veh/h)	50	1	30	75	1	50	105	1405	20	20	1215	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	56	1	33	83	1	56	117	1561	22	22	1350	31
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	227	6	202	248	4	204	170	3056	43	70	1907	850
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.10	0.59	0.59	0.04	0.54	0.54
Sat Flow, veh/h	1346	47	1545	1375	28	1561	1767	5147	73	1781	3554	1585
Grp Volume(v), veh/h	56	0	34	83	0	57	117	1024	559	22	1350	31
Grp Sat Flow(s),veh/h/ln	1346	0	1592	1375	0	1589	1767	1689	1842	1781	1777	1585
Q Serve(g_s), s	3.0	0.0	1.4	4.3	0.0	2.5	4.9	13.4	13.4	0.9	21.6	0.7
Cycle Q Clear(g_c), s	5.4	0.0	1.4	5.8	0.0	2.5	4.9	13.4	13.4	0.9	21.6	0.7
Prop In Lane	1.00		0.97	1.00		0.98	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	227	0	208	248	0	207	170	2005	1094	70	1907	850
V/C Ratio(X)	0.25	0.00	0.16	0.33	0.00	0.27	0.69	0.51	0.51	0.32	0.71	0.04
Avail Cap(c_a), veh/h	228	0	209	249	0	209	232	2043	1114	187	2056	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	29.4	31.9	0.0	29.8	33.3	9.0	9.0	35.5	13.2	8.3
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.3	0.0	0.3	2.0	0.2	0.4	1.0	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.0	1.0	2.6	0.0	1.7	3.7	7.0	7.7	0.7	11.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	29.5	32.2	0.0	30.1	35.2	9.2	9.4	36.5	14.2	8.3
LnGrp LOS	C		C	C		C	D	A	A	D	B	A
Approach Vol, veh/h		90			140			1700			1403	
Approach Delay, s/veh		31.4			31.4			11.1			14.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	51.2		15.9	13.3	46.8		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	46.0		10.0	10.0	44.0		10.0				
Max Q Clear Time (g_c+I1), s	2.9	15.4		7.4	6.9	23.6		7.8				
Green Ext Time (p_c), s	0.0	25.8		0.0	0.0	17.2		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		13.9	
HCM 7th LOS		B	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	355	20	30	540	35	120
Future Volume (vph)	355	20	30	540	35	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1832	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1832	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	366	21	31	557	36	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	387	0	31	557	36	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

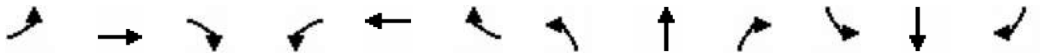
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	355	20	30	540	35	120
Future Vol, veh/h	355	20	30	540	35	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	366	21	31	557	36	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	387	0	995	376
Stage 1	-	-	-	-	376	-
Stage 2	-	-	-	-	619	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1172	-	271	670
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1172	-	264	670
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	523	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.43	13.66
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	264	670	-	-	1172	-
HCM Lane V/C Ratio	0.137	0.185	-	-	0.026	-
HCM Ctrl Dly (s/v)	20.8	11.6	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.7	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	65	0	0	10	20	1645	15	15	1295	65
Future Volume (vph)	0	0	65	0	0	10	20	1645	15	15	1295	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.999				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	5080	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	5080	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	67	0	0	10	21	1696	15	15	1335	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	67	0	0	10	21	1711	0	15	1335	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

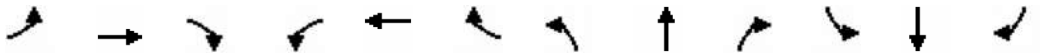
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	65	0	0	10	20	1645	15	15	1295	65
Future Vol, veh/h	0	0	65	0	0	10	20	1645	15	15	1295	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	67	0	0	10	21	1696	15	15	1335	67

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	668	-	-	848	1402	0	-	1696	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	401	0	0	262	483	-	0	178	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	401	-	-	262	483	-	-	178	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.77	19.32	0.15	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	483	-	401	262	178	-	-
HCM Lane V/C Ratio	0.043	-	0.167	0.039	0.087	-	-
HCM Ctrl Dly (s/v)	12.8	-	15.8	19.3	27.1	-	-
HCM Lane LOS	B	-	C	C	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.1	0.3	-	-

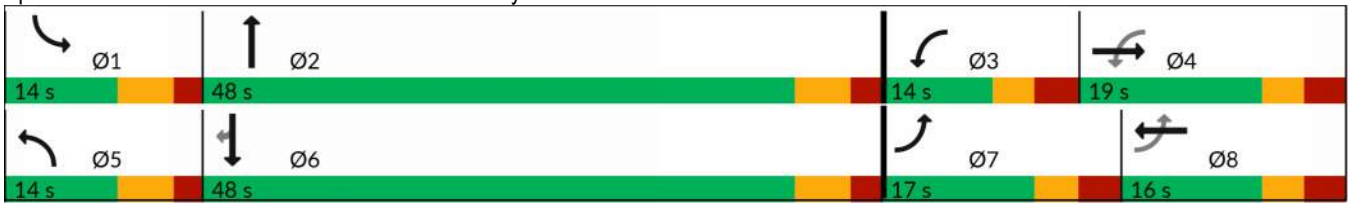


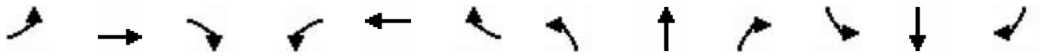
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1	155	50	1	30	55	1400	50	50	1290	20
Future Volume (vph)	250	1	155	50	1	30	55	1400	50	50	1290	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.851			0.855			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1585	0	1770	1593	0	1770	5060	0	1770	3539	1583
Flt Permitted	0.784			0.597			0.950			0.950		
Satd. Flow (perm)	1460	1585	0	1112	1593	0	1770	5060	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		160			31			7				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Adj. Flow (vph)	258	1	160	52	1	31	57	1443	52	52	1330	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	161	0	52	32	0	57	1495	0	52	1330	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	D.P+P	NA		D.P+P	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4								6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	14.0	16.0		14.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	17.0	19.0		14.0	16.0		14.0	48.0		14.0	48.0	48.0
Total Split (%)	17.9%	20.0%		14.7%	16.8%		14.7%	50.5%		14.7%	50.5%	50.5%
Maximum Green (s)	11.0	13.0		8.0	10.0		8.0	42.0		8.0	42.0	42.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	11.0		0.0	11.0	11.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	16.8	12.7		16.8	11.0		8.8	40.4		8.8	37.3	37.3
Actuated g/C Ratio	0.21	0.16		0.21	0.14		0.11	0.50		0.11	0.46	0.46
v/c Ratio	0.74	0.42		0.17	0.13		0.30	0.59		0.27	0.81	0.02
Control Delay (s/veh)	43.9	10.5		27.1	16.2		44.7	17.6		44.1	25.4	15.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	43.9	10.5		27.1	16.2		44.7	17.6		44.1	25.4	15.2
LOS	D	B		C	B		D	B		D	C	B
Approach Delay (s/veh)		31.1			23.0			18.6			26.0	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 80.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 23.2		Intersection LOS: C	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1	155	50	1	30	55	1400	50	50	1290	20
Future Volume (veh/h)	250	1	155	50	1	30	55	1400	50	50	1290	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	258	1	160	52	1	31	57	1443	52	52	1330	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	2	258	277	5	167	119	2266	82	114	1582	705
Arrive On Green	0.12	0.16	0.16	0.06	0.11	0.11	0.07	0.45	0.45	0.06	0.45	0.45
Sat Flow, veh/h	1781	10	1577	1781	50	1543	1781	5059	182	1781	3554	1585
Grp Volume(v), veh/h	258	0	161	52	0	32	57	971	524	52	1330	13
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1593	1781	1702	1838	1781	1777	1585
Q Serve(g_s), s	11.0	0.0	8.7	2.1	0.0	1.7	2.8	20.3	20.3	2.6	30.6	0.4
Cycle Q Clear(g_c), s	11.0	0.0	8.7	2.1	0.0	1.7	2.8	20.3	20.3	2.6	30.6	0.4
Prop In Lane	1.00		0.99	1.00		0.97	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	415	0	260	277	0	173	119	1524	823	114	1582	705
V/C Ratio(X)	0.62	0.00	0.62	0.19	0.00	0.19	0.48	0.64	0.64	0.46	0.84	0.02
Avail Cap(c_a), veh/h	415	0	260	318	0	173	155	1552	838	155	1620	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	35.8	28.7	0.0	37.4	41.5	19.6	19.6	41.6	22.7	14.3
Incr Delay (d2), s/veh	2.1	0.0	3.3	0.1	0.0	0.2	1.1	0.9	1.6	1.1	4.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	6.5	1.7	0.0	1.2	2.2	12.0	13.0	2.0	18.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.4	0.0	39.1	28.8	0.0	37.6	42.6	20.5	21.2	42.6	26.8	14.3
LnGrp LOS	C		D	C		D	D	C	C	D	C	B
Approach Vol, veh/h		419			84			1552			1395	
Approach Delay, s/veh		36.2			32.2			21.6			27.2	
Approach LOS		D			C			C			C	

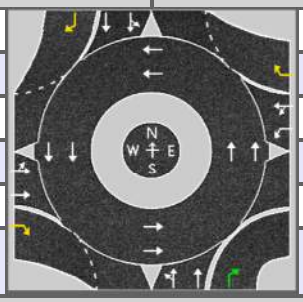
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	47.3	11.9	21.1	12.1	47.0	17.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	42.0	8.0	13.0	8.0	42.0	11.0	10.0
Max Q Clear Time (g_c+I1), s	4.6	22.3	4.1	10.7	4.8	32.6	13.0	3.7
Green Ext Time (p_c), s	0.0	17.0	0.0	0.1	0.0	8.4	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	25.9
HCM 7th LOS	C

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	AM Peak
Project Description	Build Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	35	410	190	0	715	145	5	0	140	545	780	0	1	500	55
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	40	469	217	0	810	164	6	0	160	624	893	0	1	567	62
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	239	270	217	516	458	6	368	416	893	267	301	62
Entry Volume, veh/h	232	262	211	506	449	6	358	403	867	262	295	61
Circulating Flow (v_c), pc/h	1378			824			510			1134		
Exiting Flow (v_{ex}), pc/h	470			324			664			1377		
Capacity (c_{pce}), pc/h	392	439	350	651	697	687	868	905		490	538	947
Capacity (c), veh/h	380	426	340	638	683	673	842	879		480	528	928
v/c Ratio (x)	0.61	0.61	0.62	0.79	0.66	0.01	0.42	0.46		0.55	0.56	0.07

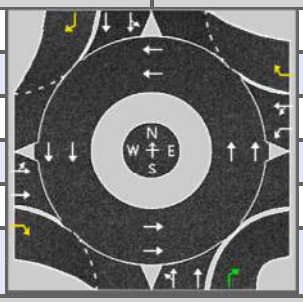
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	26.3	24.1	29.5	27.8	18.1	5.4	9.5	9.8		18.9	17.9	4.5
Lane LOS	D	C	D	D	C	A	A	A	A	C	C	A
95% Queue Length, Q_{95} (veh)	3.9	4.0	3.9	7.8	4.9	0.0	2.1	2.4		3.2	3.4	0.2
95% Queue Length, Q_{95} (ft)	99.8	102.4	99.8		124.5	0.0	53.8	61.4		81.3	86.4	5.1
Approach Delay, s/veh | LOS	26.4	D		23.1	C		4.5	A		17.0	C	
Intersection Delay, s/veh | LOS	15.0						C					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	PM Peak
Project Description	Build Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	45	280	150	0	685	260	1	0	205	420	1030	0	5	540	105
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	47	294	158	0	720	273	1	0	216	442	1083	0	5	568	110
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	160	181	158	526	467	1	309	349	1083	269	304	110
Entry Volume, veh/h	157	177	155	516	458	1	303	342	1062	264	298	108
Circulating Flow (v_c), pc/h	1293			705			346			1209		
Exiting Flow (v_{ex}), pc/h	299			489			489			1288		
Capacity (c_{pce}), pc/h	423	471	381	726	769	810	1008	1038		457	506	810
Capacity (c), veh/h	415	462	373	711	754	794	989	1017		448	496	794
v/c Ratio (x)	0.38	0.38	0.41	0.73	0.61	0.00	0.31	0.34		0.59	0.60	0.14

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	15.8	14.5	18.4	20.9	14.9	4.5	6.8	7.0		21.9	20.6	5.9
Lane LOS	C	B	C	C	B	A	A	A	A	C	C	A
95% Queue Length, Q_{95} (veh)	1.7	1.8	2.0	6.3	4.2	0.0	1.3	1.5		3.7	3.9	0.5
95% Queue Length, Q_{95} (ft)	43.2	45.7	50.8		106.7	0.0	33.0	38.1		94.0	99.1	12.7
Approach Delay, s/veh | LOS	16.1	C		18.0	C		2.6	A		18.7	C	
Intersection Delay, s/veh | LOS	11.1						B					



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	640	45	65	285	5	25
Future Volume (vph)	640	45	65	285	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1828	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1828	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	711	50	72	317	6	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	761	0	72	317	6	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	640	45	65	285	5	25
Future Vol, veh/h	640	45	65	285	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	711	50	72	317	6	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	761	0	1197	736
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	461	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	851	-	205	419
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	851	-	188	419
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	581	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.79	15.96
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	419	-	-	851	-
HCM Lane V/C Ratio	0.03	0.066	-	-	0.085	-
HCM Ctrl Dly (s/v)	24.7	14.2	-	-	9.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	10	0	0	15	45	1510	10	5	1325	130
Future Volume (vph)	0	0	10	0	0	15	45	1510	10	5	1325	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.999				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	0	0	11	0	0	17	50	1678	11	6	1472	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	11	0	0	17	50	1689	0	6	1472	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	15	45	1510	10	5	1325	130
Future Vol, veh/h	0	0	10	0	0	15	45	1510	10	5	1325	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	0	0	11	0	0	17	50	1678	11	6	1472	144

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	736	-	-	839	1617	0	-	1678	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.16	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.23	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	361	0	0	265	395	-	0	182	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	361	-	-	265	395	-	-	182	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.28	19.48	0.45	0.09
HCM LOS	C	C		

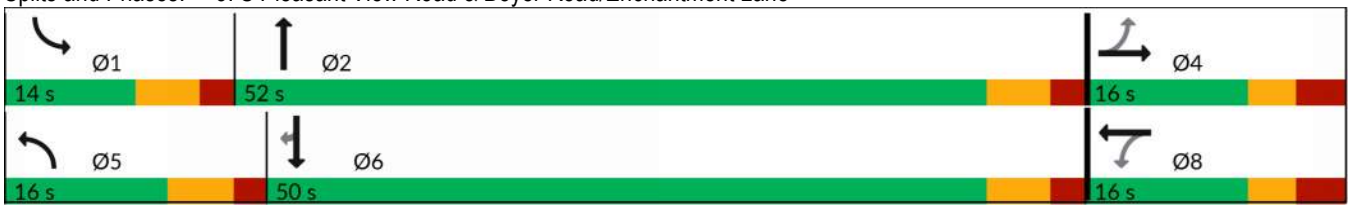
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	395	-	361	265	182	-	-
HCM Lane V/C Ratio	0.127	-	0.031	0.063	0.031	-	-
HCM Ctrl Dly (s/v)	15.4	-	15.3	19.5	25.4	-	-
HCM Lane LOS	C	-	C	C	D	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0.2	0.1	-	-

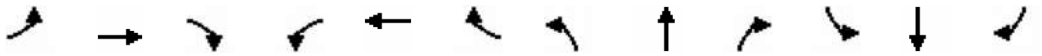
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1	30	75	1	50	105	1465	20	20	1270	45
Future Volume (vph)	50	1	30	75	1	50	105	1465	20	20	1270	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.854			0.853			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1591	0	1770	1589	0	1752	5026	0	1770	3539	1583
Flt Permitted	0.720			0.735			0.950			0.950		
Satd. Flow (perm)	1341	1591	0	1369	1589	0	1752	5026	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		33			56			4				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	56	1	33	83	1	56	117	1628	22	22	1411	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	34	0	83	57	0	117	1650	0	22	1411	31
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	16.0	16.0		16.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	52.0		14.0	50.0	50.0
Total Split (%)	19.5%	19.5%		19.5%	19.5%		19.5%	63.4%		17.1%	61.0%	61.0%
Maximum Green (s)	10.0	10.0		10.0	10.0		10.0	46.0		8.0	44.0	44.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	16.0		0.0	16.0	16.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	10.8	10.8		10.8	10.8		9.5	50.1		8.6	43.9	43.9
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.13	0.71		0.12	0.62	0.62
v/c Ratio	0.27	0.13		0.40	0.20		0.50	0.46		0.10	0.64	0.03
Control Delay (s/veh)	36.2	13.7		39.2	12.0		41.3	8.2		34.6	14.8	9.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	36.2	13.7		39.2	12.0		41.3	8.2		34.6	14.8	9.2
LOS	D	B		D	B		D	A		C	B	A
Approach Delay (s/veh)		27.7			28.1			10.4			15.0	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 70.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1	30	75	1	50	105	1465	20	20	1270	45
Future Volume (veh/h)	50	1	30	75	1	50	105	1465	20	20	1270	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	56	1	33	83	1	56	117	1628	22	22	1411	31
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	224	6	200	245	4	202	169	3078	42	69	1923	858
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.10	0.60	0.60	0.04	0.54	0.54
Sat Flow, veh/h	1346	47	1545	1375	28	1561	1767	5150	70	1781	3554	1585
Grp Volume(v), veh/h	56	0	34	83	0	57	117	1067	583	22	1411	31
Grp Sat Flow(s),veh/h/ln	1346	0	1592	1375	0	1589	1767	1689	1843	1781	1777	1585
Q Serve(g_s), s	3.0	0.0	1.5	4.4	0.0	2.5	4.9	14.3	14.3	0.9	23.2	0.7
Cycle Q Clear(g_c), s	5.5	0.0	1.5	5.9	0.0	2.5	4.9	14.3	14.3	0.9	23.2	0.7
Prop In Lane	1.00		0.97	1.00		0.98	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	224	0	206	245	0	205	169	2018	1101	69	1923	858
V/C Ratio(X)	0.25	0.00	0.17	0.34	0.00	0.28	0.69	0.53	0.53	0.32	0.73	0.04
Avail Cap(c_a), veh/h	225	0	207	246	0	207	230	2022	1103	185	2035	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	29.8	32.4	0.0	30.2	33.7	9.1	9.1	35.9	13.4	8.3
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.3	0.0	0.3	2.3	0.3	0.5	1.0	1.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	1.0	2.6	0.0	1.7	3.8	7.5	8.1	0.7	12.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.9	0.0	29.9	32.7	0.0	30.5	35.9	9.4	9.6	36.9	14.8	8.3
LnGrp LOS	C		C	C		C	D	A	A	D	B	A
Approach Vol, veh/h		90			140			1767			1464	
Approach Delay, s/veh		31.8			31.8			11.2			14.9	
Approach LOS		C			C			B			B	

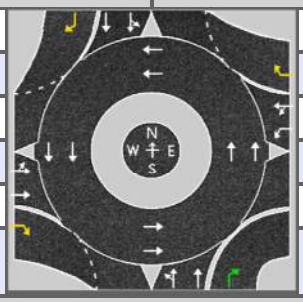
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	51.9		15.9	13.3	47.6		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	46.0		10.0	10.0	44.0		10.0				
Max Q Clear Time (g_c+I1), s	2.9	16.3		7.5	6.9	25.2		7.9				
Green Ext Time (p_c), s	0.0	25.8		0.0	0.0	16.3		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			14.1									
HCM 7th LOS			B									

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	AM Peak
Project Description	Build Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	35	430	200	0	740	145	5	0	145	570	810	0	1	520	60
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	40	492	229	0	839	164	6	0	166	652	927	0	1	589	68
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	250	282	229	532	471	6	384	434	927	277	313	68
Entry Volume, veh/h	243	274	222	521	462	6	373	421	900	272	307	67
Circulating Flow (v_c), pc/h	1429			858			533			1169		
Exiting Flow (v_{ex}), pc/h	493			330			692			1428		
Capacity (c_{pce}), pc/h	374	421	334	631	677	669	849	888		474	523	941
Capacity (c), veh/h	363	409	324	618	664	656	825	862		465	512	923
v/c Ratio (x)	0.67	0.67	0.69	0.84	0.70	0.01	0.45	0.49		0.58	0.60	0.07

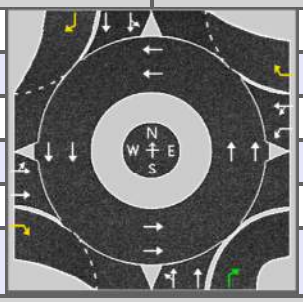
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	31.2	28.3	35.7	33.5	20.4	5.6	10.2	10.5		21.0	19.9	4.6
Lane LOS	D	D	E	D	C	A	B	B	A	C	C	A
95% Queue Length, Q_{95} (veh)	4.6	4.8	4.8	9.2	5.6	0.0	2.4	2.7		3.7	3.9	0.2
95% Queue Length, Q_{95} (ft)	117.8	122.9	122.9		142.2	0.0	61.4	69.1		94.0	99.1	5.1
Approach Delay, s/veh | LOS	31.5	D		27.2	D		4.9	A		18.8	C	
Intersection Delay, s/veh | LOS	17.3						C					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2032
Time Analyzed	PM Peak
Project Description	Build Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	45	290	155	0	710	270	1	0	210	435	1065	0	5	560	105
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	47	305	163	0	747	284	1	0	221	457	1120	0	5	589	110
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	165	187	163	546	485	1	319	359	1120	279	315	110
Entry Volume, veh/h	162	183	160	536	475	1	312	352	1098	274	309	108
Circulating Flow (v_c), pc/h	1341			725			357			1252		
Exiting Flow (v_{ex}), pc/h	310			505			504			1336		
Capacity (c_{pce}), pc/h	405	453	364	712	757	799	998	1028		439	488	798
Capacity (c), veh/h	397	444	357	698	742	783	979	1008		431	478	782
v/c Ratio (x)	0.41	0.41	0.45	0.77	0.64	0.00	0.32	0.35		0.64	0.65	0.14

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	17.2	15.7	20.3	23.9	16.3	4.6	7.0	7.2		25.0	23.4	6.0
Lane LOS	C	C	C	C	C	A	A	A	A	C	C	A
95% Queue Length, Q_{95} (veh)	1.9	2.0	2.2	7.3	4.7	0.0	1.4	1.6		4.3	4.5	0.5
95% Queue Length, Q_{95} (ft)	48.3	50.8	55.9		119.4	0.0	35.6	40.6		109.2	114.3	12.7
Approach Delay, s/veh | LOS	17.6	C		20.3	C		2.7	A		21.3	C	
Intersection Delay, s/veh | LOS	12.3						B					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	370	20	30	555	35	120
Future Volume (vph)	370	20	30	555	35	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1832	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1832	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	381	21	31	572	36	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	402	0	31	572	36	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

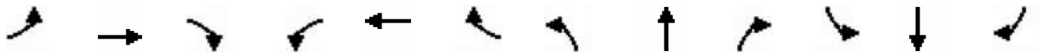
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	370	20	30	555	35	120
Future Vol, veh/h	370	20	30	555	35	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	381	21	31	572	36	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	402	0	1026	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	634	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1157	-	260	657
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1157	-	253	657
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.42	13.96
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	253	657	-	-	1157	-
HCM Lane V/C Ratio	0.143	0.188	-	-	0.027	-
HCM Ctrl Dly (s/v)	21.6	11.7	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.7	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	65	0	0	10	20	1700	15	15	1345	65
Future Volume (vph)	0	0	65	0	0	10	20	1700	15	15	1345	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.999				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	5080	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	5080	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	67	0	0	10	21	1753	15	15	1387	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	67	0	0	10	21	1768	0	15	1387	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

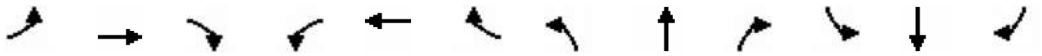
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	65	0	0	10	20	1700	15	15	1345	65
Future Vol, veh/h	0	0	65	0	0	10	20	1700	15	15	1345	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	67	0	0	10	21	1753	15	15	1387	67

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	693	-	-	876	1454	0	-	1753	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	386	0	0	251	461	-	0	167	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	386	-	-	251	461	-	-	167	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	16.29	19.98	0.15	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	461	-	386	251	167	-	-
HCM Lane V/C Ratio	0.045	-	0.174	0.041	0.093	-	-
HCM Ctrl Dly (s/v)	13.2	-	16.3	20	28.8	-	-
HCM Lane LOS	B	-	C	C	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.1	0.3	-	-

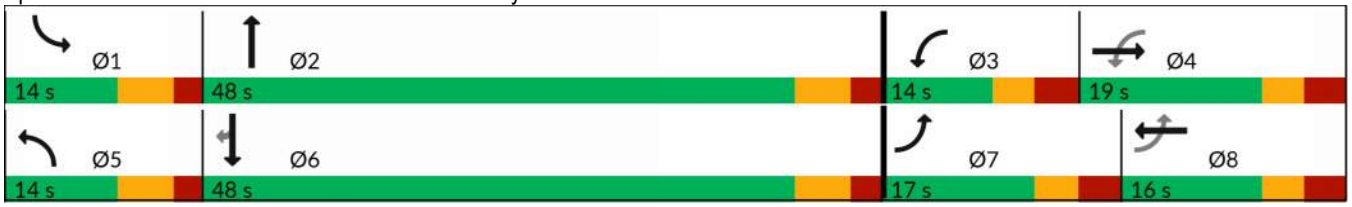


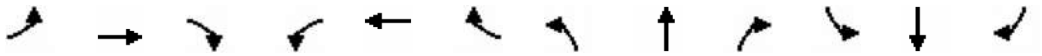
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1	155	50	1	30	55	1455	50	50	1340	20
Future Volume (vph)	250	1	155	50	1	30	55	1455	50	50	1340	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.851			0.855			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1585	0	1770	1593	0	1770	5060	0	1770	3539	1583
Flt Permitted	0.769			0.591			0.950			0.950		
Satd. Flow (perm)	1432	1585	0	1101	1593	0	1770	5060	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		160			31			7				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Adj. Flow (vph)	258	1	160	52	1	31	57	1500	52	52	1381	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	161	0	52	32	0	57	1552	0	52	1381	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	D.P+P	NA		D.P+P	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4								6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	14.0	16.0		14.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	17.0	19.0		14.0	16.0		14.0	48.0		14.0	48.0	48.0
Total Split (%)	17.9%	20.0%		14.7%	16.8%		14.7%	50.5%		14.7%	50.5%	50.5%
Maximum Green (s)	11.0	13.0		8.0	10.0		8.0	42.0		8.0	42.0	42.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	11.0		0.0	11.0	11.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	16.7	12.6		16.7	10.8		8.7	41.5		8.7	38.6	38.6
Actuated g/C Ratio	0.20	0.15		0.20	0.13		0.11	0.51		0.11	0.47	0.47
v/c Ratio	0.76	0.42		0.18	0.13		0.30	0.60		0.28	0.82	0.02
Control Delay (s/veh)	45.6	10.6		27.4	16.2		45.0	17.8		44.5	26.1	15.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	45.6	10.6		27.4	16.2		45.0	17.8		44.5	26.1	15.2
LOS	D	B		C	B		D	B		D	C	B
Approach Delay (s/veh)		32.2			23.1			18.7			26.6	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 81.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 23.6		Intersection LOS: C	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1	155	50	1	30	55	1455	50	50	1340	20
Future Volume (veh/h)	250	1	155	50	1	30	55	1455	50	50	1340	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	258	1	160	52	1	31	57	1500	52	52	1381	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	413	2	257	275	5	166	118	2280	79	114	1589	709
Arrive On Green	0.12	0.16	0.16	0.06	0.11	0.11	0.07	0.45	0.45	0.06	0.45	0.45
Sat Flow, veh/h	1781	10	1577	1781	50	1543	1781	5067	176	1781	3554	1585
Grp Volume(v), veh/h	258	0	161	52	0	32	57	1008	544	52	1381	13
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1593	1781	1702	1839	1781	1777	1585
Q Serve(g_s), s	11.0	0.0	8.7	2.2	0.0	1.7	2.9	21.4	21.4	2.6	32.5	0.4
Cycle Q Clear(g_c), s	11.0	0.0	8.7	2.2	0.0	1.7	2.9	21.4	21.4	2.6	32.5	0.4
Prop In Lane	1.00		0.99	1.00		0.97	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	413	0	259	275	0	172	118	1532	827	114	1589	709
V/C Ratio(X)	0.62	0.00	0.62	0.19	0.00	0.19	0.48	0.66	0.66	0.46	0.87	0.02
Avail Cap(c_a), veh/h	413	0	259	316	0	172	154	1546	835	154	1613	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	36.1	28.9	0.0	37.6	41.6	19.9	19.9	41.8	23.1	14.2
Incr Delay (d2), s/veh	2.2	0.0	3.4	0.1	0.0	0.2	1.1	1.0	1.9	1.1	5.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	0.0	6.5	1.7	0.0	1.2	2.3	12.5	13.6	2.1	19.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.7	0.0	39.5	29.0	0.0	37.8	42.8	20.9	21.8	42.8	28.4	14.3
LnGrp LOS	C		D	C		D	D	C	C	D	C	B
Approach Vol, veh/h		419			84			1609			1446	
Approach Delay, s/veh		36.6			32.4			22.0			28.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	47.6	11.9	21.1	12.2	47.4	17.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	42.0	8.0	13.0	8.0	42.0	11.0	10.0
Max Q Clear Time (g_c+I1), s	4.6	23.4	4.2	10.7	4.9	34.5	13.0	3.7
Green Ext Time (p_c), s	0.0	16.4	0.0	0.1	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Year 2042 Build Traffic Analysis Output



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	45	65	300	5	25
Future Volume (vph)	645	45	65	300	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1828	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1828	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	717	50	72	333	6	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	767	0	72	333	6	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	645	45	65	300	5	25
Future Vol, veh/h	645	45	65	300	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	717	50	72	333	6	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	767	0	1219	742
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	478	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	847	-	199	416
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	847	-	182	416
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	571	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.72	16.13
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	182	416	-	-	847	-
HCM Lane V/C Ratio	0.031	0.067	-	-	0.085	-
HCM Ctrl Dly (s/v)	25.4	14.3	-	-	9.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	10	0	0	25	45	1570	10	10	1355	130
Future Volume (vph)	0	0	10	0	0	25	45	1570	10	10	1355	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.999				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	0	0	11	0	0	28	50	1744	11	11	1506	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	11	0	0	28	50	1755	0	11	1506	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

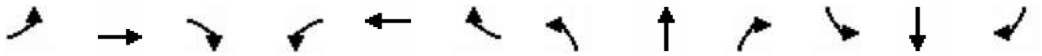
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	25	45	1570	10	10	1355	130
Future Vol, veh/h	0	0	10	0	0	25	45	1570	10	10	1355	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	0	0	11	0	0	28	50	1744	11	11	1506	144

Major/Minor	Minor2		Minor1			Major1				Major2		
Conflicting Flow All	-	-	753	-	-	872	1650	0	-	1744	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.16	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.23	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	352	0	0	252	383	-	0	168	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	352	-	-	252	383	-	-	168	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.55	21.03	0.44	0.19
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	383	-	352	252	168	-	-
HCM Lane V/C Ratio	0.131	-	0.032	0.11	0.066	-	-
HCM Ctrl Dly (s/v)	15.8	-	15.5	21	27.9	-	-
HCM Lane LOS	C	-	C	C	D	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0.4	0.2	-	-

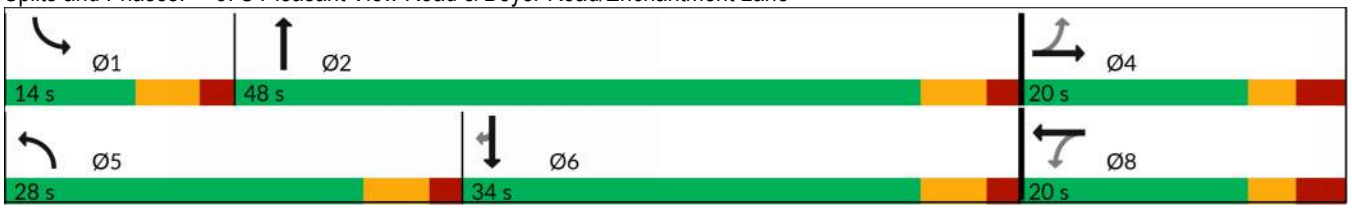


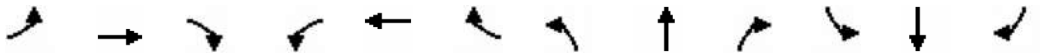
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1	30	150	1	105	105	1470	45	40	1280	45
Future Volume (vph)	50	1	30	150	1	105	105	1470	45	40	1280	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.854			0.851			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1591	0	1770	1585	0	1752	5016	0	1770	3539	1583
Flt Permitted	0.681			0.735			0.950			0.950		
Satd. Flow (perm)	1269	1591	0	1369	1585	0	1752	5016	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		33			117			8				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	56	1	33	167	1	117	117	1633	50	44	1422	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	34	0	167	118	0	117	1683	0	44	1422	31
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	16.0	16.0		16.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	20.0	20.0		20.0	20.0		28.0	48.0		14.0	34.0	34.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%		34.1%	58.5%		17.1%	41.5%	41.5%
Maximum Green (s)	14.0	14.0		14.0	14.0		22.0	42.0		8.0	28.0	28.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	16.0		0.0	16.0	16.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	12.5	12.5		12.5	12.5		10.1	40.8		8.2	35.8	35.8
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.14	0.56		0.11	0.49	0.49
v/c Ratio	0.26	0.11		0.72	0.32		0.49	0.60		0.22	0.82	0.04
Control Delay (s/veh)	32.6	12.3		50.1	9.3		39.0	13.1		36.7	22.9	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	32.6	12.3		50.1	9.3		39.0	13.1		36.7	22.9	12.3
LOS	C	B		D	A		D	B		D	C	B
Approach Delay (s/veh)		25.0			33.2			14.8			23.1	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 73.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1	30	150	1	105	105	1470	45	40	1280	45
Future Volume (veh/h)	50	1	30	150	1	105	105	1470	45	40	1280	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	56	1	33	167	1	117	117	1633	50	44	1422	31
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	220	8	254	297	2	259	173	2679	82	114	1766	788
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.10	0.53	0.53	0.06	0.50	0.50
Sat Flow, veh/h	1274	47	1545	1375	13	1574	1767	5050	155	1781	3554	1585
Grp Volume(v), veh/h	56	0	34	167	0	118	117	1092	591	44	1422	31
Grp Sat Flow(s),veh/h/ln	1274	0	1592	1375	0	1587	1767	1689	1828	1781	1777	1585
Q Serve(g_s), s	3.1	0.0	1.4	8.8	0.0	5.0	4.8	16.8	16.8	1.8	25.1	0.7
Cycle Q Clear(g_c), s	8.1	0.0	1.4	10.2	0.0	5.0	4.8	16.8	16.8	1.8	25.1	0.7
Prop In Lane	1.00		0.97	1.00		0.99	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	220	0	262	297	0	261	173	1792	970	114	1766	788
V/C Ratio(X)	0.25	0.00	0.13	0.56	0.00	0.45	0.68	0.61	0.61	0.39	0.81	0.04
Avail Cap(c_a), veh/h	250	0	298	329	0	297	520	1899	1028	191	1766	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	26.6	31.0	0.0	28.2	32.6	12.2	12.2	33.5	15.8	9.6
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.7	0.0	0.5	1.7	0.5	1.0	0.8	2.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.0	0.9	5.3	0.0	3.4	3.6	9.1	9.8	1.3	14.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.1	0.0	26.7	31.7	0.0	28.6	34.3	12.7	13.1	34.3	18.6	9.7
LnGrp LOS	C		C	C		C	C	B	B	C	B	A
Approach Vol, veh/h		90			285			1800			1497	
Approach Delay, s/veh		30.0			30.4			14.2			18.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	45.6		18.3	13.3	43.1		18.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	42.0		14.0	22.0	28.0		14.0				
Max Q Clear Time (g_c+I1), s	3.8	18.8		10.1	6.8	27.1		12.2				
Green Ext Time (p_c), s	0.0	20.9		0.0	0.1	0.9		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			17.8									
HCM 7th LOS			B									

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	380	20	30	570	35	120
Future Volume (vph)	380	20	30	570	35	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1832	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1832	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	392	21	31	588	36	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	413	0	31	588	36	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

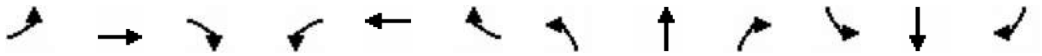
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	380	20	30	570	35	120
Future Vol, veh/h	380	20	30	570	35	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	392	21	31	588	36	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	412	0	1052	402
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	649	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1147	-	251	648
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	520	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1147	-	244	648
Mov Cap-2 Maneuver	-	-	-	-	244	-
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	506	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.41	14.21
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	244	648	-	-	1147	-
HCM Lane V/C Ratio	0.148	0.191	-	-	0.027	-
HCM Ctrl Dly (s/v)	22.3	11.9	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.7	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	65	0	0	15	20	1750	30	15	1415	65
Future Volume (vph)	0	0	65	0	0	15	20	1750	30	15	1415	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.997				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	5070	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	5070	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	67	0	0	15	21	1804	31	15	1459	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	67	0	0	15	21	1835	0	15	1459	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	65	0	0	15	20	1750	30	15	1415	65
Future Vol, veh/h	0	0	65	0	0	15	20	1750	30	15	1415	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	67	0	0	15	21	1804	31	15	1459	67

Major/Minor	Minor2		Minor1			Major1				Major2		
Conflicting Flow All	-	-	729	-	-	902	1526	0	-	1804	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	365	0	0	241	433	-	0	157	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	365	-	-	241	433	-	-	157	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.06	20.96	0.16	0.31
HCM LOS	C	C		

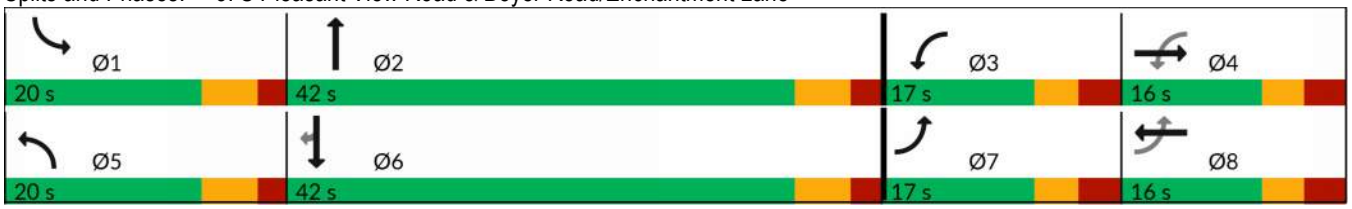
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	433	-	365	241	157	-	-
HCM Lane V/C Ratio	0.048	-	0.184	0.064	0.098	-	-
HCM Ctrl Dly (s/v)	13.7	-	17.1	21	30.4	-	-
HCM Lane LOS	B	-	C	C	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	0.2	0.3	-	-

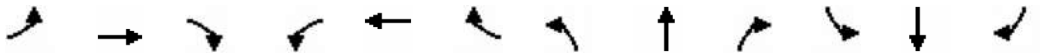
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1	155	100	1	70	55	1480	115	110	1350	20
Future Volume (vph)	250	1	155	100	1	70	55	1480	115	110	1350	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.851			0.852			0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1585	0	1770	1587	0	1770	5029	0	1770	3539	1583
Flt Permitted	0.709			0.574			0.950			0.950		
Satd. Flow (perm)	1321	1585	0	1069	1587	0	1770	5029	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		160			72			15				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Adj. Flow (vph)	258	1	160	103	1	72	57	1526	119	113	1392	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	161	0	103	73	0	57	1645	0	113	1392	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	D.P+P	NA		D.P+P	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4								6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	14.0	16.0		14.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	17.0	16.0		17.0	16.0		20.0	42.0		20.0	42.0	42.0
Total Split (%)	17.9%	16.8%		17.9%	16.8%		21.1%	44.2%		21.1%	44.2%	44.2%
Maximum Green (s)	11.0	10.0		11.0	10.0		14.0	36.0		14.0	36.0	36.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	11.0		0.0	11.0	11.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	18.5	11.8		18.5	10.3		8.7	37.2		10.3	38.8	38.8
Actuated g/C Ratio	0.22	0.14		0.22	0.12		0.10	0.44		0.12	0.46	0.46
v/c Ratio	0.75	0.45		0.34	0.29		0.31	0.74		0.53	0.86	0.02
Control Delay (s/veh)	43.0	11.5		28.3	13.5		44.3	25.2		47.5	30.4	16.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	43.0	11.5		28.3	13.5		44.3	25.2		47.5	30.4	16.1
LOS	D	B		C	B		D	C		D	C	B
Approach Delay (s/veh)		30.9			22.2			25.8			31.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 85			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 28.5		Intersection LOS: C	
Intersection Capacity Utilization 86.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1	155	100	1	70	55	1480	115	110	1350	20
Future Volume (veh/h)	250	1	155	100	1	70	55	1480	115	110	1350	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	258	1	160	103	1	72	57	1526	119	113	1392	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	2	245	304	2	178	122	1945	152	152	1491	665
Arrive On Green	0.13	0.16	0.16	0.08	0.11	0.11	0.07	0.40	0.40	0.09	0.42	0.42
Sat Flow, veh/h	1781	10	1577	1781	22	1567	1781	4830	377	1781	3554	1585
Grp Volume(v), veh/h	258	0	161	103	0	73	57	1075	570	113	1392	13
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1588	1781	1702	1803	1781	1777	1585
Q Serve(g_s), s	11.0	0.0	8.4	4.1	0.0	3.8	2.7	24.2	24.3	5.4	32.8	0.4
Cycle Q Clear(g_c), s	11.0	0.0	8.4	4.1	0.0	3.8	2.7	24.2	24.3	5.4	32.8	0.4
Prop In Lane	1.00		0.99	1.00		0.99	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	399	0	246	304	0	181	122	1371	726	152	1491	665
V/C Ratio(X)	0.65	0.00	0.65	0.34	0.00	0.40	0.47	0.78	0.78	0.74	0.93	0.02
Avail Cap(c_a), veh/h	399	0	246	378	0	181	284	1394	738	284	1491	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	34.9	27.5	0.0	36.2	39.4	22.9	22.9	39.3	24.3	14.9
Incr Delay (d2), s/veh	2.8	0.0	4.8	0.2	0.0	0.5	1.0	3.0	5.5	2.7	11.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	0.0	6.4	3.2	0.0	2.7	2.1	14.4	15.8	4.3	21.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.8	0.0	39.7	27.7	0.0	36.7	40.4	25.9	28.4	42.0	35.4	14.9
LnGrp LOS	C		D	C		D	D	C	C	D	D	B
Approach Vol, veh/h		419			176			1702			1518	
Approach Delay, s/veh		35.5			31.4			27.2			35.7	
Approach LOS		D			C			C			D	

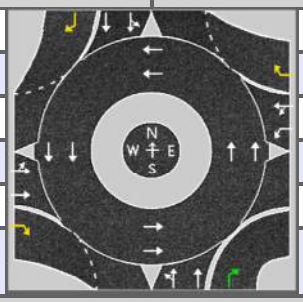
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	41.4	13.4	19.6	12.0	42.9	17.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	36.0	11.0	10.0	14.0	36.0	11.0	10.0
Max Q Clear Time (g_c+I1), s	7.4	26.3	6.1	10.4	4.7	34.8	13.0	5.8
Green Ext Time (p_c), s	0.1	9.1	0.0	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	31.7
HCM 7th LOS	C

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	AM Peak
Project Description	Build Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	35	430	205	0	760	150	5	0	155	580	860	0	1	530	60
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	40	492	235	0	861	170	6	0	177	664	984	0	1	601	68
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	250	282	235	546	485	6	395	446	984	283	319	68
Entry Volume, veh/h	243	274	228	536	475	6	384	433	955	277	313	67
Circulating Flow (v_c), pc/h	1463			881			533			1208		
Exiting Flow (v_{ex}), pc/h	493			347			704			1462		
Capacity (c_{pce}), pc/h	362	409	323	617	664	661	849	888		458	506	926
Capacity (c), veh/h	352	397	314	605	651	648	825	862		449	496	908
v/c Ratio (x)	0.69	0.69	0.73	0.88	0.73	0.01	0.47	0.50		0.62	0.63	0.07

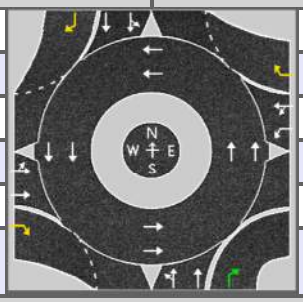
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	33.7	30.3	40.4	39.6	22.6	5.6	10.4	10.8		23.3	22.0	4.6
Lane LOS	D	D	E	E	C	A	B	B	A	C	C	A
95% Queue Length, Q_{95} (veh)	4.9	5.0	5.3	10.5	6.3	0.0	2.5	2.9		4.1	4.3	0.2
95% Queue Length, Q_{95} (ft)	125.4	128.0	135.7		160.0	0.0	64.0	74.2		104.1	109.2	5.1
Approach Delay, s/veh | LOS	34.5	D		31.5	D		4.9	A		20.8	C	
Intersection Delay, s/veh | LOS	19.1						C					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	PM Peak
Project Description	Build Conditions (0.5% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	45	290	165	0	755	275	1	0	220	445	1100	0	5	575	105
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	47	305	174	0	794	289	1	0	231	468	1157	0	5	605	110
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	165	187	174	574	509	1	329	370	1157	287	323	110
Entry Volume, veh/h	162	183	171	563	499	1	322	363	1134	281	317	108
Circulating Flow (v_c), pc/h	1404			746			357			1314		
Exiting Flow (v_{ex}), pc/h	310			520			515			1399		
Capacity (c_{pce}), pc/h	382	430	343	699	744	791	998	1028		415	463	787
Capacity (c), veh/h	375	421	336	685	729	775	979	1008		407	454	771
v/c Ratio (x)	0.43	0.43	0.51	0.82	0.68	0.00	0.33	0.36		0.69	0.70	0.14

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	18.9	17.1	23.8	28.8	18.4	4.7	7.1	7.4		29.8	27.8	6.1
Lane LOS	C	C	C	D	C	A	A	A	A	D	D	A
95% Queue Length, Q_{95} (veh)	2.1	2.1	2.7	8.8	5.5	0.0	1.4	1.7		5.1	5.3	0.5
95% Queue Length, Q_{95} (ft)	53.3	53.3	68.6		139.7	0.0	35.6	43.2		129.5	134.6	12.7
Approach Delay, s/veh | LOS	19.9	C		23.9	C		2.7	A		25.3	D	
Intersection Delay, s/veh | LOS	14.2						B					



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	725	45	65	325	5	25
Future Volume (vph)	725	45	65	325	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1830	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1830	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	806	50	72	361	6	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	856	0	72	361	6	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	725	45	65	325	5	25
Future Vol, veh/h	725	45	65	325	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	806	50	72	361	6	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	856	0	1336	831
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	784	-	169	370
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	784	-	154	370
Mov Cap-2 Maneuver	-	-	-	-	154	-
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.68	17.82
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	154	370	-	-	784	-
HCM Lane V/C Ratio	0.036	0.075	-	-	0.092	-
HCM Ctrl Dly (s/v)	29.3	15.5	-	-	10.1	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	10	0	0	25	45	1740	10	10	1505	130
Future Volume (vph)	0	0	10	0	0	25	45	1740	10	10	1505	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.999				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1752	5031	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	0	0	11	0	0	28	50	1933	11	11	1672	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	11	0	0	28	50	1944	0	11	1672	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	25	45	1740	10	10	1505	130
Future Vol, veh/h	0	0	10	0	0	25	45	1740	10	10	1505	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	0	0	11	0	0	28	50	1933	11	11	1672	144

Major/Minor	Minor2		Minor1			Major1				Major2		
Conflicting Flow All	-	-	836	-	-	967	1817	0	-	1933	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.16	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.23	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	310	0	0	218	330	-	0	135	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	310	-	-	218	330	-	-	135	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.03	23.88	0.45	0.21
HCM LOS	C	C		

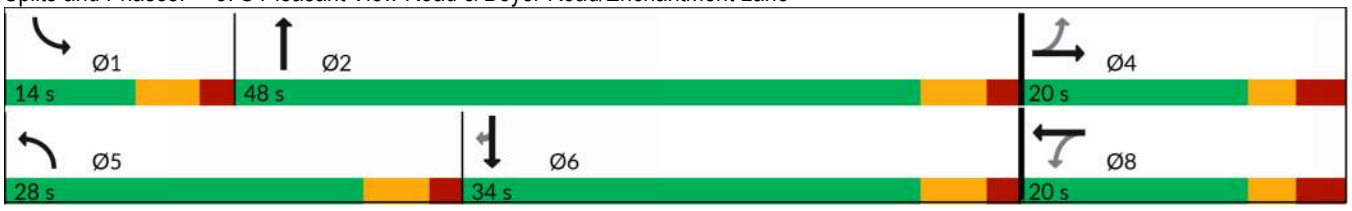
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	330	-	310	218	135	-	-
HCM Lane V/C Ratio	0.152	-	0.036	0.127	0.082	-	-
HCM Ctrl Dly (s/v)	17.9	-	17	23.9	34	-	-
HCM Lane LOS	C	-	C	C	D	-	-
HCM 95th %tile Q(veh)	0.5	-	0.1	0.4	0.3	-	-

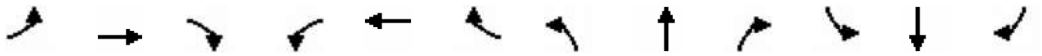
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1	30	150	1	105	105	1640	45	40	1430	45
Future Volume (vph)	50	1	30	150	1	105	105	1640	45	40	1430	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.854			0.851			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1591	0	1770	1585	0	1752	5016	0	1770	3539	1583
Flt Permitted	0.681			0.735			0.950			0.950		
Satd. Flow (perm)	1269	1591	0	1369	1585	0	1752	5016	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		33			117			7				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	56	1	33	167	1	117	117	1822	50	44	1589	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	34	0	167	118	0	117	1872	0	44	1589	31
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	16.0	16.0		16.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	20.0	20.0		20.0	20.0		28.0	48.0		14.0	34.0	34.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%		34.1%	58.5%		17.1%	41.5%	41.5%
Maximum Green (s)	14.0	14.0		14.0	14.0		22.0	42.0		8.0	28.0	28.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	16.0		0.0	16.0	16.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	12.4	12.4		12.4	12.4		10.0	41.6		8.2	36.6	36.6
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.14	0.56		0.11	0.50	0.50
v/c Ratio	0.26	0.12		0.73	0.32		0.49	0.66		0.23	0.91	0.04
Control Delay (s/veh)	32.7	12.4		51.0	9.3		39.2	14.1		36.8	28.6	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	32.7	12.4		51.0	9.3		39.2	14.1		36.8	28.6	12.3
LOS	C	B		D	A		D	B		D	C	B
Approach Delay (s/veh)		25.0			33.8			15.6			28.5	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 73.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay (s/veh): 22.4		Intersection LOS: C	
Intersection Capacity Utilization 76.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1	30	150	1	105	105	1640	45	40	1430	45
Future Volume (veh/h)	50	1	30	150	1	105	105	1640	45	40	1430	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	56	1	33	167	1	117	117	1822	50	44	1589	31
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	218	8	253	295	2	258	170	2717	75	113	1789	798
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.10	0.54	0.54	0.06	0.50	0.50
Sat Flow, veh/h	1274	47	1545	1375	13	1574	1767	5069	139	1781	3554	1585
Grp Volume(v), veh/h	56	0	34	167	0	118	117	1214	658	44	1589	31
Grp Sat Flow(s),veh/h/ln	1274	0	1592	1375	0	1587	1767	1689	1831	1781	1777	1585
Q Serve(g_s), s	3.2	0.0	1.4	9.0	0.0	5.1	4.9	19.8	19.8	1.8	30.6	0.8
Cycle Q Clear(g_c), s	8.3	0.0	1.4	10.4	0.0	5.1	4.9	19.8	19.8	1.8	30.6	0.8
Prop In Lane	1.00		0.97	1.00		0.99	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	218	0	261	295	0	260	170	1810	981	113	1789	798
V/C Ratio(X)	0.26	0.00	0.13	0.57	0.00	0.45	0.69	0.67	0.67	0.39	0.89	0.04
Avail Cap(c_a), veh/h	243	0	293	322	0	292	511	1864	1010	187	1789	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	27.2	31.6	0.0	28.7	33.3	12.8	12.8	34.2	17.0	9.6
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.9	0.0	0.5	1.8	0.9	1.7	0.8	5.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	0.9	5.4	0.0	3.5	3.7	10.5	11.5	1.4	17.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.7	0.0	27.3	32.5	0.0	29.2	35.1	13.7	14.5	35.0	22.9	9.6
LnGrp LOS	C		C	C		C	D	B	B	D	C	A
Approach Vol, veh/h		90			285			1989			1664	
Approach Delay, s/veh		30.7			31.1			15.2			22.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	46.8		18.5	13.3	44.3		18.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	42.0		14.0	22.0	28.0		14.0				
Max Q Clear Time (g_c+I1), s	3.8	21.8		10.3	6.9	32.6		12.4				
Green Ext Time (p_c), s	0.0	19.0		0.0	0.1	0.0		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		19.9	
HCM 7th LOS		B	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	425	20	30	635	35	120
Future Volume (vph)	425	20	30	635	35	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1834	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1834	0	1770	1863	1770	1583
Link Speed (mph)	30			30	25	
Link Distance (ft)	716			1012	414	
Travel Time (s)	16.3			23.0	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	438	21	31	655	36	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	459	0	31	655	36	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	21			21	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

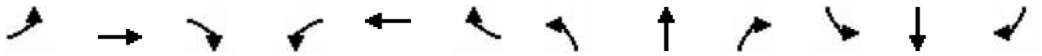
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	425	20	30	635	35	120
Future Vol, veh/h	425	20	30	635	35	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	438	21	31	655	36	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	459	0	1165	448
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	716	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1102	-	215	610
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1102	-	209	610
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	470	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.38	15.43
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	209	610	-	-	1102	-
HCM Lane V/C Ratio	0.173	0.203	-	-	0.028	-
HCM Ctrl Dly (s/v)	25.8	12.4	-	-	8.4	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	0.8	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	65	0	0	15	20	1915	30	15	1570	65
Future Volume (vph)	0	0	65	0	0	15	20	1915	30	15	1570	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	225		0	225		165
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.865			0.865		0.998				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	5075	0	1770	3539	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	5075	0	1770	3539	1583
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		929			687			1080			385	
Travel Time (s)		25.3			18.7			18.4			6.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	67	0	0	15	21	1974	31	15	1619	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	67	0	0	15	21	2005	0	15	1619	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			21			30	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	65	0	0	15	20	1915	30	15	1570	65
Future Vol, veh/h	0	0	65	0	0	15	20	1915	30	15	1570	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	225	-	165
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	67	0	0	15	21	1974	31	15	1619	67

Major/Minor	Minor2		Minor1			Major1				Major2		
Conflicting Flow All	-	-	809	-	-	987	1686	0	-	1974	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	323	0	0	212	375	-	0	129	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	323	-	-	212	375	-	-	129	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	19.02	23.35	0.16	0.33
HCM LOS	C	C		

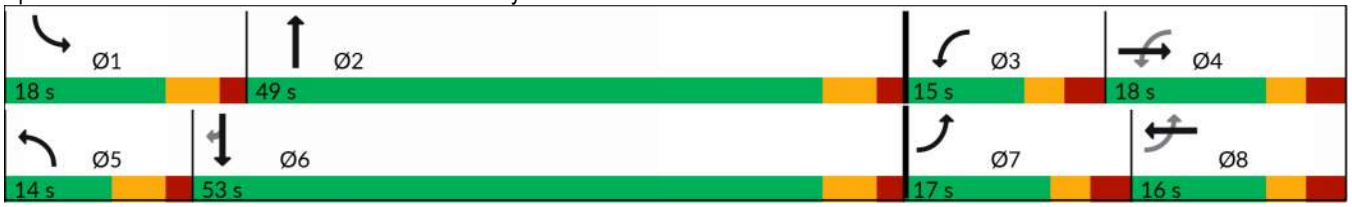
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	375	-	323	212	129	-	-
HCM Lane V/C Ratio	0.055	-	0.207	0.073	0.12	-	-
HCM Ctrl Dly (s/v)	15.1	-	19	23.4	36.7	-	-
HCM Lane LOS	C	-	C	C	E	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	0.2	0.4	-	-

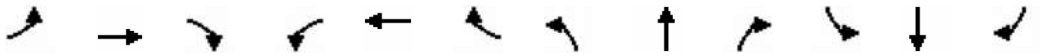
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1	155	100	1	70	55	1645	115	110	1505	20
Future Volume (vph)	250	1	155	100	1	70	55	1645	115	110	1505	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.851			0.852			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1585	0	1770	1587	0	1770	5034	0	1770	3539	1583
Flt Permitted	0.709			0.544			0.950			0.950		
Satd. Flow (perm)	1321	1585	0	1013	1587	0	1770	5034	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		160			72			14				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		837			836			1199			1080	
Travel Time (s)		22.8			22.8			20.4			18.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%
Adj. Flow (vph)	258	1	160	103	1	72	57	1696	119	113	1552	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	161	0	103	73	0	57	1815	0	113	1552	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			28			28	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		2	2		2	2		2	2	2
Detector Template	Left											
Leading Detector (ft)	20	45		45	45		45	301		45	301	45
Trailing Detector (ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Position(ft)	0	-3		-3	-3		-3	120		-3	120	-3
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		25		25	25		25	295		25	295	25
Detector 2 Size(ft)		20		20	20		20	6		20	6	20
Detector 2 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	D.P+P	NA		D.P+P	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4								6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	12.0		8.0	12.0	12.0
Minimum Split (s)	14.0	16.0		14.0	16.0		14.0	18.0		14.0	18.0	18.0
Total Split (s)	17.0	18.0		15.0	16.0		14.0	49.0		18.0	53.0	53.0
Total Split (%)	17.0%	18.0%		15.0%	16.0%		14.0%	49.0%		18.0%	53.0%	53.0%
Maximum Green (s)	11.0	12.0		9.0	10.0		8.0	43.0		12.0	47.0	47.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0		1.5	3.0	3.0
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0		1.5	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	28.0		0.0	28.0	28.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	11.0		0.0	11.0	11.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)	18.7	12.3		18.7	10.4		8.3	44.1		10.3	46.1	46.1
Actuated g/C Ratio	0.20	0.13		0.20	0.11		0.09	0.48		0.11	0.50	0.50
v/c Ratio	0.80	0.46		0.37	0.30		0.36	0.75		0.57	0.88	0.02
Control Delay (s/veh)	52.0	11.7		32.8	14.4		50.5	24.2		54.2	29.9	14.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	52.0	11.7		32.8	14.4		50.5	24.2		54.2	29.9	14.4
LOS	D	B		C	B		D	C		D	C	B
Approach Delay (s/veh)		36.5			25.2			25.0			31.4	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 92			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 28.8		Intersection LOS: C	
Intersection Capacity Utilization 90.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: S Pleasant View Road & Boyer Road/Enchantment Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1	155	100	1	70	55	1645	115	110	1505	20
Future Volume (veh/h)	250	1	155	100	1	70	55	1645	115	110	1505	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	258	1	160	103	1	72	57	1696	119	113	1552	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1	217	259	2	160	115	2250	158	141	1694	756
Arrive On Green	0.11	0.14	0.14	0.08	0.10	0.10	0.06	0.46	0.46	0.08	0.48	0.48
Sat Flow, veh/h	1781	10	1577	1781	22	1567	1781	4872	341	1781	3554	1585
Grp Volume(v), veh/h	258	0	161	103	0	73	57	1184	631	113	1552	13
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1588	1781	1702	1809	1781	1777	1585
Q Serve(g_s), s	11.0	0.0	9.6	4.7	0.0	4.2	3.0	28.2	28.2	6.1	39.8	0.4
Cycle Q Clear(g_c), s	11.0	0.0	9.6	4.7	0.0	4.2	3.0	28.2	28.2	6.1	39.8	0.4
Prop In Lane	1.00		0.99	1.00		0.99	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	351	0	218	259	0	162	115	1572	835	141	1694	756
V/C Ratio(X)	0.73	0.00	0.74	0.40	0.00	0.45	0.50	0.75	0.75	0.80	0.92	0.02
Avail Cap(c_a), veh/h	351	0	218	286	0	162	145	1572	835	218	1703	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	0.0	40.6	32.6	0.0	41.4	44.3	21.8	21.8	44.4	23.8	13.5
Incr Delay (d2), s/veh	6.9	0.0	11.0	0.4	0.0	0.7	1.2	2.1	3.9	5.5	8.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.0	7.8	3.7	0.0	3.1	2.4	16.1	17.5	5.1	23.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.1	0.0	51.6	33.0	0.0	42.2	45.6	23.9	25.7	49.8	32.0	13.5
LnGrp LOS	D		D	C		D	D	C	C	D	C	B
Approach Vol, veh/h		419			176			1872			1678	
Approach Delay, s/veh		46.4			36.8			25.2			33.1	
Approach LOS		D			D			C			C	

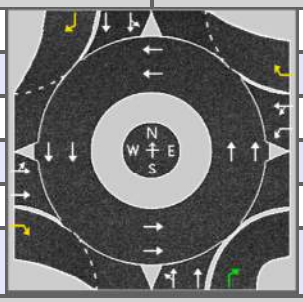
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	51.3	13.5	19.5	12.3	52.8	17.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	43.0	9.0	12.0	8.0	47.0	11.0	10.0
Max Q Clear Time (g_c+I1), s	8.1	30.2	6.7	11.6	5.0	41.8	13.0	6.2
Green Ext Time (p_c), s	0.0	12.1	0.0	0.0	0.0	5.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	31.0
HCM 7th LOS	C

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	AM Peak
Project Description	Build Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	40	480	230	0	830	160	5	0	170	645	950	0	1	585	60
Percent Heavy Vehicles, %	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	46	549	263	0	941	181	6	0	195	738	1087	0	1	663	68
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	280	315	263	595	527	6	439	494	1087	312	352	68
Entry Volume, veh/h	272	306	255	583	517	6	426	480	1055	306	345	67
Circulating Flow (v_c), pc/h	1605			979			596			1317		
Exiting Flow (v_{ex}), pc/h	550			376			784			1604		
Capacity (c_{pce}), pc/h	318	363	283	564	612	613	802	843		414	462	901
Capacity (c), veh/h	309	353	274	553	600	601	778	818		406	453	884
v/c Ratio (x)	0.88	0.87	0.93	1.05	0.86	0.01	0.55	0.59		0.75	0.76	0.08

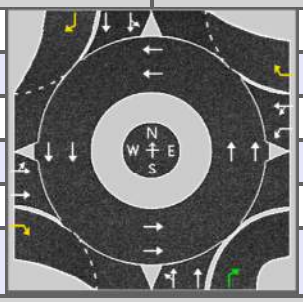
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	62.1	54.5	77.9	80.4	36.5	6.1	12.8	13.4		35.2	33.0	4.8
Lane LOS	F	F	F	F	E	A	B	B	A	E	D	A
95% Queue Length, Q_{95} (veh)	8.0	8.2	8.7	16.8	9.7	0.0	3.4	3.9		6.2	6.5	0.2
95% Queue Length, Q_{95} (ft)	204.8	209.9	222.7		246.4	0.0	87.0	99.8		157.5	165.1	5.1
Approach Delay, s/veh | LOS	64.2	F		59.5	F		6.1	A		31.3	D	
Intersection Delay, s/veh | LOS	33.3						D					

HCS Roundabouts Report

General Information

Analyst	KL Engineering
Agency or Co.	
Date Performed	7/7/2026
Analysis Year	2042
Time Analyzed	PM Peak
Project Description	Build Conditions (1.2% Growth Rate)



Site Information

Intersection	South Pleasant View Road w...
E/W Street Name	Valley View Road/South Jun...
N/S Street Name	South Pleasant View Road
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	1	1	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		T		L		LT		LT		T		LT		T	
Volume (V), veh/h	0	50	315	180	0	830	305	1	0	240	490	1200	0	5	640	120
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	53	331	189	0	873	321	1	0	252	515	1262	0	5	673	126
Right-Turn Bypass	Yielding				Yielding				Non-Yielding				Yielding			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.6000	4.3000	4.8000	4.6000	4.3000	4.8000	4.6000	4.3000		4.6000	4.3000	4.8000
Follow-Up Headway, s	2.6000	2.6000	2.8000	2.6000	2.6000	2.8000	2.6000	2.6000		2.6000	2.6000	2.8000

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	180	204	189	633	561	1	360	407	1262	319	359	126
Entry Volume, veh/h	177	200	185	620	550	1	353	399	1237	312	352	124
Circulating Flow (v_c), pc/h	1551			820			389			1446		
Exiting Flow (v_{ex}), pc/h	336			573			568			1546		
Capacity (c_{pce}), pc/h	334	380	299	653	699	752	969	1001		368	415	748
Capacity (c), veh/h	328	373	293	640	685	737	950	982		361	407	734
v/c Ratio (x)	0.54	0.54	0.63	0.97	0.80	0.00	0.37	0.41		0.87	0.87	0.17

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	25.9	22.9	34.5	53.5	27.1	4.9	7.9	8.2		53.5	49.0	6.7
Lane LOS	D	C	D	F	D	A	A	A	A	F	E	A
95% Queue Length, Q_{95} (veh)	3.0	3.0	4.0	14.1	8.2	0.0	1.7	2.0		8.2	8.6	0.6
95% Queue Length, Q_{95} (ft)	76.2	76.2	101.6		208.3	0.0	43.2	50.8		208.3	218.4	15.2
Approach Delay, s/veh | LOS	27.7	D		41.1	E		3.0	A		44.2	E	
Intersection Delay, s/veh | LOS	23.2						C					